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Insight in Psychosis:

A Systematic Review: The Constructs of Insight in Psychosis and Their Measurement

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An Exploration of Current Practices in the Assessment and Intervention of Insight in Psychosis within Scotland's Forensic Mental Health Services: Clinical Psychologists' Perspective

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Submitted in part fulfilment of the degree of
Doctorate in Clinical Psychology at
the University of Edinburgh. September 2015

Word Count for Main Body of Thesis: 19,350

Acknowledgements

First I'd like to thank my academic supervisors; Doctor Ethel Quayle and Doctor Ken Macmahon who have been a great support and source of guidance in helping me complete this thesis and were always there if I needed help. Not forgetting the speedy, and beyond the call of duty response times to my various drafts.

Secondly I'd like to thank my clinical supervisor Doctor Karen Allan, for her great support in my recruitment campaign, for her contribution to the thesis idea and also for providing a very supportive workplace to get this project completed.

I'd also like to thank Doctor Robyn McRitchie for her eagle eyes when it came to completing the IRAS form and proof reading the final thesis and for her general support and feedback along the way.

I'd also like to give an especially big thank you to those qualified Clinical Psychologists who gave up their time and took part in my research.

I'd also like to thank the Heads of Service and the NHS Boards, for their support in the recruitment and for allowing the project to happen in their departments and regions.

Finally I like to thank my mother and my sister, for their support and understanding. Given that trips to London became less and less frequent.

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ABSTRACT

Insight in Psychosis:

Poor insight has clinical significance as a predictor of non-adherence to treatment, increased number of relapses, hospitalisations, recovery and risk of violence. Empirical research has led to advances in the redefinition, knowledge and understanding of insight in psychosis. However, the use of a wide range of definitions and measures has created difficulties in interpreting research findings, without clarifying the concepts being measured and evaluating the quality of their associated assessment tool. Therefore, the aim of the first piece of work, a Systematic Review (SR), was to identify and describe the constructs of insight in psychosis and their assessment tools and briefly evaluate their psychometric properties. Insight in psychosis is particularly relevant to Forensic Mental Health Services, given its link with offending behaviour and risk to others. However, outside of those provided by risk appraisal tools, there are no current guidelines that specifically target the assessment, or intervention, of insight. Therefore, the second piece of work, a research project (RP), aimed to explore current practices, as described by experienced clinicians.

The SR identified twelve assessment tools and fourteen papers for detailed analysis. Twelve theoretical constructs were identified, the most prominent being awareness of mental illness and awareness of the need for treatment. Other prominent theoretical constructs included awareness of negative consequences of illness and awareness of generic or specific symptoms. However, few of the subscales associated with each theoretical construct were supported by empirical evidence. Further work to clarify aspects of insight that are important areas for intervention, along with the provision of data to support these, should continue to be a focus for on-going research.

The RP was a qualitative design using Thematic Analysis. Data was collected by semi-structured interviews from 11 qualified Clinical Psychologists working in Forensic Mental Health Services across Scotland. The RP identified three overarching themes. The first "risk related" illustrated the influence of risk to other when assessing and treating patients. The second "holistic approach" illustrated that insight or mental illness was rarely looked at in isolation. The third theme "no specific or satisfactory unified approach" illustrated the diversity of the conceptualising, assessment and treatment of insight. Opportunities exist to develop a more uniformed approach and to introduce or develop outcome measures for interventions.

TITLE

2. Systematic Review

A Systematic Review: The Constructs of Insight in Psychosis and Their Measurement

2.1 ABSTRACT

Poor insight has clinical significance as a predictor of non-adherence to treatment, poorer patient outcomes and risk of violence. Empirical research has led to advances in the redefinition, knowledge and understanding of insight in psychosis. However, given a wide range of definitions and measures there is a need to clarify the concepts and evaluate the associated assessment tool. The study aimed to identify and describe the constructs of insight and assessment tools and briefly evaluate their psychometric properties. Twelve assessment tools and fourteen papers were selected. Twelve theoretical constructs were identified; however, few of the subscales associated with each theoretical construct were supported by empirical evidence. Further work to clarify aspects of insight that are important areas for intervention, along with the provision of data to support these, should continue to be a focus for on-going research.

Written up as per author guidelines for Journal of Nervous and Mental Diseases (see Appendix 1. Journal of Nervous and Mental Diseases – Authors Guidelines).

2.2 INTRODUCTION

> "*The issue of Insight in schizophrenia must be assumed to be one of the most important aspects of clinical examination*" (Dam, 2006 p114).

Psychotic illnesses are characterised by a distortion of thinking and perception (World Health Organization, 1992). In tandem with this, individuals often lack insight into their condition, something that has been shown to adversely affect the person's immediate mental state, as well as increase the risk of future relapse. For example, Heinrichs *et al*. (1985) found that

individuals with schizophrenia, who had insight into their condition during the early phases of relapse, had reduced likelihood of rehospitalisation. Olfson *et al.* (2006) found that a lack of insight was associated with more severe positive symptoms, reduced adherence to anti-psychotic medication, and a greater probability of hospitalisation.

Concepts of Insight

Over the years numerous authors have attempted to define what is meant by insight. Early research and practice has drawn on psychodynamic concepts of insight, based largely on single case studies and anecdotal evidence, that poor insight was the result of unconscious psychological defences or a conscious coping strategy (Amador & Kronengold, 2004). David (1990) suggested insight had three components: awareness of illness, the capacity to re-label psychotic experiences as abnormal, and treatment compliance. This biomedical framework influenced how insight was assessed in practice (Tranulis *et al*., 2008).

More recently empirical examination of insight in psychotic disorders, from a neuroscience and neuropsychology perspective, has resulted in further advances in its conceptualisation (Amador & Kronengold, 2004; Mintz *et al*., 2003; Osatuke *et al*., 2008; Schwartz *et al*, 2000). McCormack *et al.* (2013) proposed that current theories on insight can be divided into four broad categories. The first category, psychological defence mechanism, is a cognitive strategy of denial, to either maintain self-esteem or retain a positive outlook. The second category, cognitive deficits, suggests lack of insight as symptomatic of a cognitive deficit, resulting in the patient's inability to recognise they are suffering from the disorder. The third category, neurological mechanism, proposes insight as a deficit caused by a disease. The fourth category, rejection of diagnostic label, suggests insight represents a discord between

the patient and their clinician about, or an unwillingness to attribute their experiences to, a diagnostic label.

Assessment of Insight

Historically, approaches to the assessment of insight focused upon the use of individuals' narratives, providing the opportunity for the person to tell the story of their illness without imposing a particular structure or framework. However, since these are extremely variable, generalisability and replication is difficult (Amador & Seckinger, 1997). Traditionally, insight was reviewed as a binary and unitary concept. More recently, the emerged consensus is that insight is both a multidimensional and continuous construct (McGorry & McConville, 1999). However, given the multi-dimensional characteristics of insight no single model or single assessment tool is adequate (Cooke *et al*., 2005; McCormack *et al*., 2013; Osatuke *et al*, 2008).

The additions to the theories and concepts of insight, and their subsequent measures, create additional difficulties in its research. Markova and Berrios (1995) reviewed the literature on insight identifying a focus on the exploration on the relationship between insight and other clinical variables such as severity of psychopathology, compliance with medication, general outcome and neuropsychological impairments. They found studies yielded divergent and inconsistent results and concluded that, as a consequence, the role of insight in relation to such variables remains unclear. They suggested one reason for variability in the results relates to the confusion surrounding the term insight. Ghaemi and Pope (1994) concluded that the definition and measurement of insight were not standardised, so comparing studies with one another maybe misleading. Chakraborty and Basu (2010) concluded that although there had been a surge of research into the conceptualisation and assessment of insight, as well as its

relationships with areas such as prognosis, compliance, neuropsychological impairment and severity of psychopathology in schizophrenia, these studies have also yielded inconsistent results. They suggested that different dimensions of insight are probably related to different aspects of outcome and this needs to be reflected in the study planning phase. Amador *et al*. (1993) also suggested specific domains of insight may be related to different aspects of compliance.

In addition to variations on the concepts and measurement numerous authors have suggested the need for the psychometric properties of the measures of insight to be more closely examined. Amador and David (2004) suggested an evaluation of the measures was well overdue. Ghaemi and Pope (1994) and Mintz *et al*. (2002) suggested that research into insight was open to questions of the reliability and validity of the measurement of insight and Goldberg *et al*. (2001) strongly encouraged continued rigour in evaluating the reliability and validity associated with conceptualisation. General limitations for the studies on insight also include methodological problems such as small sample sizes and heterogeneous samples e.g. mixing chronic and acutely psychotic patients (Mintz et al., 2002).

A number of reviews have examined the conceptualisation of insight and its measures. Dam (2006) presented recent discussions of insight and major results from empirical attempts to validate the different concepts. Baier *et al*. (1998) reviewed the concepts of insight and a variety of measures that have been used to assess these. However, a number of additional concepts and measures of insight have been developed since (e.g., Beck et *al*., 2004; Kemp & David, 1996; Marková *et al.*, 2003). Lincoln *et al.* (2007) included a brief summary of the dimensions and psychometric properties of insight scales. However, the main focus of the study was a systematic review on the correlates and long-term consequences of poor insight.

Given the advances in conceptual understanding of insight in psychosis, the introduction of new measures, the need to clarify the constructs being researched and evaluate the domains and measurements being used, it appears timely to undertake a review. The aim of this review is to identify and describe the constructs of insight and associated assessment tools used in literature and provide a brief evaluation of the psychometric properties of these measures.

2.3 METHOD

Inclusion Criteria

The review considered all empirical studies, published after 1980, making reference to replicable and clinically applicable assessments or measurements of insight in psychosis, its constructs and psychometric properties. Studies considered included adult participants (18 years or older) who experienced, or were deemed at risk of developing, psychosis.

Exclusion criteria

Qualitative, conference abstracts or single case studies were excluded. Only articles in English were retrieved and studies on non-English versions of the assessments or measurements were excluded. Where authors reported replacing their original scales, in order to improve on the proposed model or psychometric properties, for example the Insight Scale (Markova & Berrios, 1992), the old version was excluded. Additionally, studies reporting on correlations with other scales only were excluded since this study was exploring the constructs of the measurements and their internal consistency.

Literature Search

The following electronic databases were searched: CINAHL Plus (1937-17th March 2015), EMBASE (1974 – 8th January 2015), Medline (1946 - 17th March 2015) and PsycINFO (1987 – December Week 1 2014). The search terms of (INSIGHT) or (AWARENESS) and (PSYCHOSIS), (PSYCHOTIC) or (SCHIZOPHRENIA) or (SCHIZOPHRENIC) and (ASSESSMENT) or (RISK ASSESSMENT) or (MEASURE) or (PSYCHOMETRICS) were mapped onto subject headings in individual databases and key articles that matched the inclusion criteria (see Appendix 2. Search Terms and Results by Database).

Grey literature searches included contacting key authors for unpublished (and published) studies. Specialist journals including the Journal of Nervous and Mental Diseases (1996, 184 (1) – 2015, 203 (3)), Schizophrenia Bulletin (1980, 6 (1) – 2015, 41 (2)), Schizophrenia Research (1988, 1 (1) – 2015, 162 (1-3)) and Psychiatric Research (1980, 2 (1) – 2015, 225 (1-2)), were hand searched as were, biographies or reference lists of papers that matched the eligibility criteria. Citation searches were conducted, using Scopus, for authors and articles accredited with identified constructs and measures.

Study Search and Assessment of Risk of Bias

Study search and selection was conducted in three stages: Searches, Screening and Final Study Selection (see Figure 1. Flow Chart of Systematic Review Stages). Screening was divided into two phases. Study titles and abstracts were screened for relevance by a single reviewer in Phase 1 with articles that were not deemed relevant excluded. Full texts were retrieved for all remaining articles and screened using the inclusion criteria, by a single reviewer, in Phase 2. Two reviewers independently assessed the remaining studies for the quality of methodology and risk of bias using the Consensus-based standards for the selection of health status measurement instruments (COSMIN) Checklist with a 4-point scale (Terwee *et al*., 2012) (see Appendix 3).

The COSMIN checklist (Mokkink *et al*., 2009 & 2010), is a standardised checklist to evaluate the quality of the research on the properties of measurements. The checklist provides rating scales for a total of nine categories. However, this study only used three of these categories: Internal Consistency (11 items), Reliability: Relevant Measures, covering test-retest, intra and inter-rater reliability (14 items) and Structural Validity (7 items). These categories were deemed most relevant to the study aims and reflected the available data. The

COSMIN Checklist provides a rating of "poor", "fair", "good" or "excellent" for each item within each category. The overall evaluation for each paper, by category, was based on the lowest score of any one item (Terwee *et al*., 2012). Mokkink *et al.* (2010) recommend that differences between reviews on the ratings are resolved through discussions between reviewers. Table 1 lists the definitions of the categories and guidelines for acceptable statistical values subject to an evaluation of the methodological quality of the study.

Table 1. Psychometrics: Definitions and Acceptable Statistical Values.

Psychometric Domain	Measurement Property	Definition	Acceptable statistical values (subject to the methodological quality of the study)
Reliability	Internal Consistency	The extent to which items in a scale or subscale are inter-correlated and therefore measuring the same construct.	Correlation coefficient / Cronbach's alpha is between 0.70 and 0.95 (Terwee *et al*., 2007).
	Test-retest (Intra-rater Agreement)	The degree of agreement between the scores of an identical scale completed by the same rater after an interval of time.	Intraclass Correlation Coefficient (ICC) or weighted Kappa is ≥0.70. (Terwee *et al*., 2007)
	Inter-rater Agreement	The degree of agreement between two or more raters under similar assessment conditions.	
Validity	Structural Validity	The degree to which the scores of the scale are a reflection of the constructs being measured.	A variety of statistical tests are used to establish the constructs, factors or subscales within a scale. However, factor loading is >0.30 for individual items to be included within the identified construct.

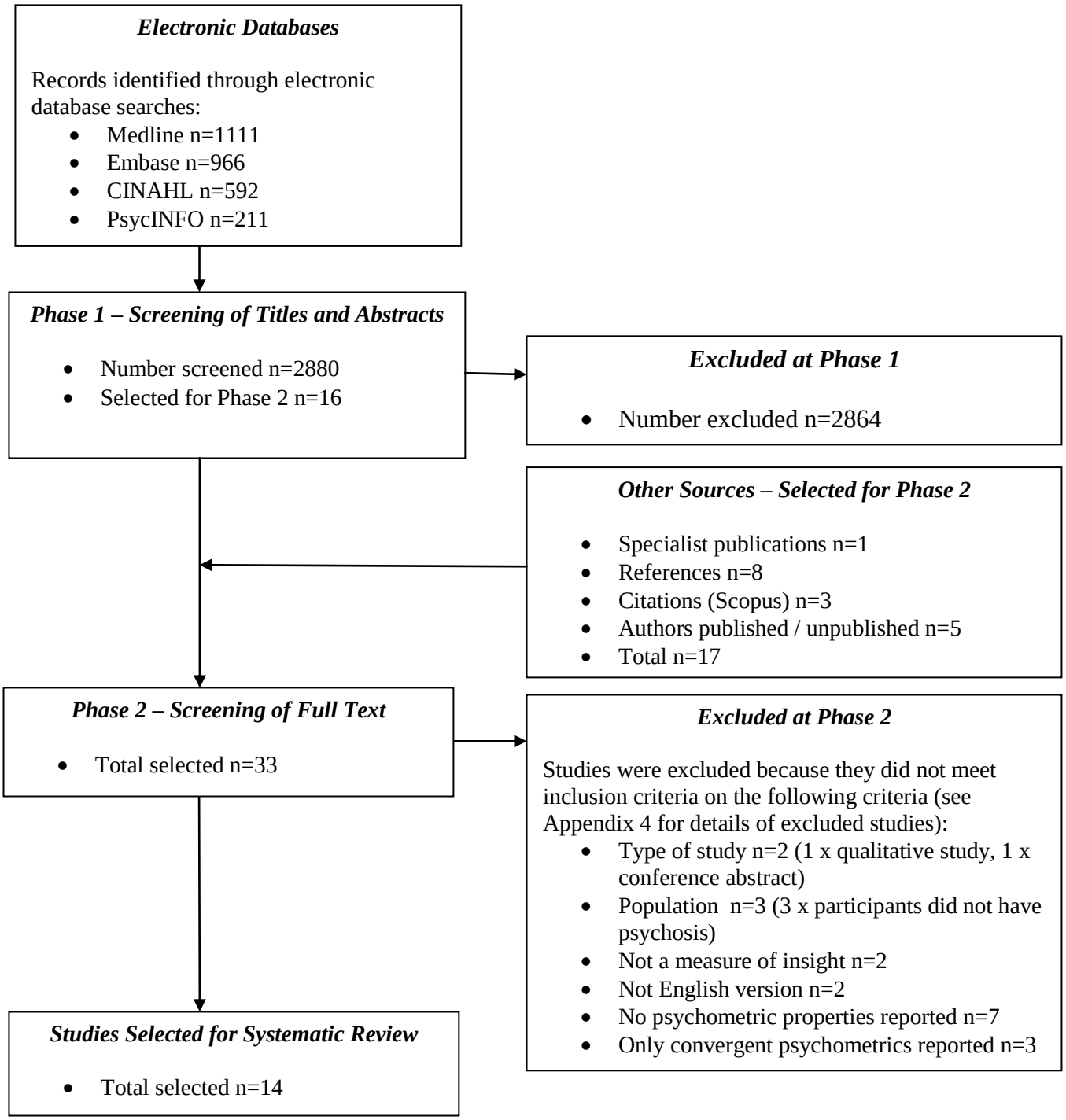
Data Extraction

Data extraction used an in-house data extraction sheet incorporating elements of the COSMIN Checklist (Terwee et *al*., 2012).

2.4 RESULTS

The search and study selection process is illustrated in Fig. 1. The Electronic Database search identified a total n=2,880 potential papers for Phase 1 involving the screening of titles and abstracts against the inclusion and exclusion criteria. This resulted in n=16 papers being put forward for Phase 2 from the Electronic Database search. Additional resources provided a further n=17 papers giving a combined total of n=33 for consideration at Phase 2. The second Phase involved obtaining and screening full text versions of the papers. A total of n=19 papers were excluded at this stage (see Appendix 4. for details of excluded studies and reasons for their exclusion). The remaining papers n=14 were selected for inclusion in the review (see Table 5 and 6 for a list of selected studies).

Figure 1. Flow Chart of the Stages of the Systematic Review Study Selection



Evaluation of Methodological Quality

Eight of the fourteen papers were rated by two raters independently. Intra-class Correlation Coefficient (ICC) was calculated, yielding a satisfactory level of inter-rater agreement (ICC=0.78). Disagreements were resolved on most rated items with the exception of judgement of sample size adequacy for an investigation into reliability and validation studies of each scale (see Appendix 5 Box A items 4 & 6, Box B item 3 and Box E item 4). Clarification on how to evaluate these particular items was resolved by correspondence with the author.

The overall methodological quality of the papers ranged from fair to poor. Methodological weaknesses tended to be due to small samples sizes or small numbers of items within the scales (see Table 2. for an evaluation of each paper's methodology by psychometric category).

Table 2. Methodological Quality Criteria and Evaluation of Bias of Selected Articles

No.	Authors	Scales	Reliability		Validity		Comments
			Internal Consistency	Test-retest	Inter-rater Agreement	Construct Validity	
					Clinician Rated		
1	Amador *et al*., (1993)	SUMD	n/a	n/a	Fair	n/a	
2	Lysaker *et al*. (1998)	SUMD-A	n/a	n/a	Poor	n/a	Poor methodology for testing inter-rater reliability due to small sample size n=16 (n<30)
3	McEvoy *et al*. (1989)	ITAQ	n/a	n/a	n/a	Fair	
4	David *et al*. (1992)	SAI	n/a	n/a	Poor	Fair	Poor methodology for testing inter-rater reliability due to small sample size n=8 (n<30).
5	Bell *et al*. (1992)	PANSS	n/a	n/a	Fair		
6	Cuffel *et al*. (1996)	AII	Fair	n/a	Poor	Fair	Poor methodology for testing inter-rater reliability due to small sample size n=14 (n<30)
7	Gerretsen *et al*. (2014)	VAGUS-CR	n/a	Fair	Poor	Fair	Poor methodology for testing inter-rater reliability due to small sample size n=16 (n<30)
					Self-Reported		
7	Gerretsen *et al*. (2014)	VAGUS-SR	n/a	Fair	n/a	Fair	
9	Birchwood *et al*. (1994)	BIS	Fair	Poor	n/a	Poor	Poor methodology for testing inter-rater reliability due to small sample size n=8 (n<30) and for structural validity due to conducting a factorial analysis on subscales as 3 individual items (<5items).
9	Cleary *et al.* (2014)	BIS	Fair	n/a	n/a	Fair	
10	Markova *et al*. (2003)	IS-R	Poor	Poor	n/a	Fair	Poor methodology for testing internal consistency because Cronbach's α only reported for whole scale when four factor solutions was indicated. Poor methodology for test-retest reliability due to small sample size, n=10 (n<30)
11	Beck *et al*. (2004)	BCIS	Fair	n/a	n/a	Fair	
12	Greenberger & Serper (2010)	BCIS	Fair	n/a	n/a	n/a	
13	Pedrelli *et al*. (2004)	BCIS	Fair	n/a	n/a	Fair	
14	Marks *et al*. (2000)*	SAIQ	Fair	n/a	n/a	Fair	

SUMD – Scale to Assess Unawareness of Mental Illness (Amador *et al*., 1993). SUMD – A - Scale to Assess Unawareness of Mental Illness - Abbreviated Version (Amador *et al*., 1993). ITAQ - Insight and Treatment Attitude Questionnaire (McEvoy *et al*., 1989). SAI - The Schedule for Assessing the Components of Insight (David, 1990). PANSS (item G12) - Positive and Negative Syndrome Scale item G 12, "Lack of insight and judgement" (Kay *et al*., 1987). AII - Awareness of Illness Interview (Cuffel *et al*., 1996). VEGUS – CR - VEGUS Insight into Psychosis Scale – Clinician Rated Version (Gerretsen *et al*., 2014). VEGUS – SR - VEGUS Insight into Psychosis Scale – Self – Report Version (Gerretsen *et al*., 2014). BIS - Birchwood Insight Scale (Birchwood *et al*., 1994). IS-R - Insight Scale - Revised (Markova *et al*., 2003). BCIS - Beck Cognitive Insight Scale (Beck *et al*., 2004)... SAIQ - Self-appraisal of Illness Questionnaire (SAIQ) – (Mark *et al*., 2000).

Table 3. Description of Scales Measuring Insight

Name of Scale	Scale Authors	Theoretical Subscales (number of items)	Total number of items in scale	Type of Scale	Comments
Clinician Rated					
Scale to Assess Unawareness of Mental Illness (SUMD)	Amador *et al*. (1993)	Awareness of Mental Disorder (1) Awareness of the Achieved Effects of Medication (1) Awareness of the Social Consequences of having a Mental Disorder (1) 17 x Subscales Awareness of Specific Symptoms (1) 17 x Subscales Attributions of Specific Symptoms (1)	37/74	3-5 point scale	The SUMD comprises of global insight items and items that focus on the awareness and attribution of specific signs or deficits, if present in the patient (e.g. Mood disorder). Not all items relevant to psychotic symptoms. All items 37 items can be scored for the present and the past (2 x37 =74 items).
Scale to Assess Unawareness of Mental Illness – Abbreviated Version (SUMD – A)	Amador *et al*.(1993)	Awareness of Mental Disorder (1) Identification that Medication has been Helpful (2) 4 x Subscales Awareness of Specific Symptoms (1) 4 x Subscales Attributions of Specific Symptoms (1)	6	5 point scale	The SUMD-A an abbreviated version, uses global insight items and awareness and attributions of symptoms associated with schizophrenia. Specific symptoms include: Hallucinations, Delusions, Blunted Affect and Asocialty.
Insight and Treatment Attitude Questionnaire (ITAQ)	McEvoy *et al*. (1989)	Acknowledgement of Mental Illness Acknowledgement of the Need for Treatment / Treatment Compliance Number of items per subscale not specified	11	3 point scale	This scale specifically targets patients who have required hospital admissions.
The Schedule for Assessing the Components of Insight (SAI)	David (1990)	Recognition of Mental Illness (5) Need for treatment (1) Ability to Relabel Symptoms as Abnormal (2) Hypothetical Contradiction (1)	9	3-7 point scale	An expanded version of The Schedule for Assessing the Components of Insight **(**SAI-E - Kemp & David, 1996) includes an additional summary of treatment compliance.
Positive and Negative Syndrome Scale (PANSS) item G 12	Kay *et al*. (1987)	Lack of Judgement and Insight (1)	30	7 point scale	The PANSS contains a total of 30 items. G12 is a single item "Lack of judgement and insight" with the General Symptoms subscale containing 16 items
Awareness of Illness Interview (AII)	Cuffel *et al*. (1996)	Recondition of Mental Illness (3) Perceived Need for Treatment (4)	7	5 point scale	
VEGUS Insight into Psychosis Scale – Clinician Rated Version (VEGUS – CR)	Gerretsen *et al*. (2014)	General Illness Awareness (1) Awareness of Need the Treatment (1) Awareness of Negative Consequences (1) Symptom Attribution (2)	5	11 point scale	The VEGUS Symptom Attributions separately assesses the accurate attribution of Delusions and Auditory Hallucinations.

Self-Reported					
VEGUS Insight into Psychosis Scale – Self – Report Version (VEGUS – SR)	Gerretsen *et al*. (2014)	General illness Awareness (2) Awareness of Need the Treatment (3) Awareness of Negative Consequences (1) Symptom Attribution (4)	10	11 point scale	The VEGUS Symptom Attributions separately assesses the accurate attribution of Delusions and Auditory Hallucinations.
Birchwood Insight Scale (BIS)	Birchwood *et al*. (1994)	Relabelling Symptoms (2) Awareness of Illness (2) Need for Treatment (4)	8	3 point scale	
Insight Scale - Revised (IS-R)	Markova *et al*. (2003)	Awareness and Acknowledgement of Changes within Self Awareness and Acknowledgement of Changes within the Interactions with the Outside World	30	Dichotomous (agree / disagree)	Revised version based on the Insight Scale by Markova & Berrios (1992).
Beck Cognitive Insight Scale (BICS)	Beck *et al.* (2004)	Self-reflectiveness (9) Self-certainty (6)	15	4 point scale	
Self-Appraisal of Illness Questionnaire (SAIQ)	Mark *et al*. (2000)	Need for Treatment (6) Worry (7) Presence/Outcome of Illness (4)	17	4 point scale	The number of items per subscale were derived from a forced three factor factorial analysis based on the three theoretical domains of the scale

Table 4. Theoretical Constructs of Insight by Scales

Theoretical Construct	Share % of Construct	SUMD	SUMD-A	ITAQ	SAI	PANSS (G12)	AII	VEGUS -CR	VEGUS -SR	BIS	IS-R	BCIS	SAIQ
Awareness (acknowledgement / acceptance) of having a Mental Disorder	83%	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Awareness of Need for (attitude towards, acknowledged effects & compliance to) Treatment	83%	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Awareness of Negative Consequences (including social consequences or negative consequences such as hospitalisation) of having a Mental Illness	42%	✓				✓		✓	✓				✓
Attributions of specific Signs and Deficits of Mental illness e.g. Hallucinations	33%	✓	✓					✓	✓				
Generic Relabelling / Attributions of Psychotic Phenomena / Symptoms	25%				✓	✓				✓			
Awareness of Specific Signs and Deficits of Mental Illness e.g. Hallucinations	17%	✓	✓										
Belief about Illness Hypothetically Challenged	8%				✓								
Cognitive Insight: Self-certainty	8%											✓	
Awareness and Acknowledgement of Changes within Self	8%										✓		
Awareness and Acknowledgement of Changes within the Interactions with the Outside World	8%										✓		
Cognitive Insight: Self-reflectiveness	8%											✓	
Extent of worry about illness and about illness related issues	8%												✓

SUMD – Scale to Assess Unawareness of Mental Illness (Amador *et al*., 1993). SUMD – A - Scale to Assess Unawareness of Mental Illness - Abbreviated Version (Amador *et al*., 1993). ITAQ - Insight and Treatment Attitude Questionnaire (McEvoy *et al*., 1989). SAI - The Schedule for Assessing the Components of Insight (David, 1990). PANSS (item G12) - Positive and Negative Syndrome Scale item G 12, "Lack of insight and judgement" (Kay *et al*., 1987). AII - Awareness of Illness Interview (Cuffel *et al*., 1996). VEGUS – CR - VEGUS Insight into Psychosis Scale – Clinician Rated Version (Gerretsen *et al*., 2014). VEGUS – SR - VEGUS Insight into Psychosis Scale – Self – Report Version (Gerretsen *et al*., 2014). BIS - Birchwood Insight Scale (Birchwood *et al*., 1994). IS-R - Insight Scale - Revised (Markova *et al*., 2003). BCIS - Beck Cognitive Insight Scale (Beck *et al*., 2004). SAIQ - Self-appraisal of Illness Questionnaire (SAIQ) – (Mark *et al*., 2000).

Measurement of Insight in Psychosis

A total of twelve assessment measures of insight in psychosis were identified within the literature search (see Table 3). Seven of these were clinician-rated and five self-report. The VEGUS Insight into Psychoses Scale (Gerretsen *et al.*, 2014) had both a clinician rated and self-reported version. The PANNS (Kay *et al*., 1987) was not a specific measure of insight in psychosis. However, a single item, "Lack of judgement and insight" was used independently from other items in the PANSS within some studies. Therefore, this single item was included in the list of scales.

A total of twelve constructs of insight were identified within the scales (see Table 4). Nearly all the scales (83%), with two exceptions, shared the two theoretical constructs Awareness or Acknowledgement of Mental Illness and Awareness of Need for (including attitude towards, acknowledged effects & compliance to) Treatment. These constructs could be described as an aspect of clinical insight which focuses on mental illness and related issues such as its symptoms and treatment. The first exception, The Beck Cognitive Insight Scale (BCIS - Beck *et al.*, 2004), does not have specific items that relate to awareness of illness but items that indicate the individual's awareness of more general cognitive processes and certainty in their own beliefs. The other exception, Insight Scale Revised (IS-R, Markova *et al.*, 2003), also does not have items specifically related to mental illness, but focuses on the individual's awareness of general changes in themselves and in their interactions with their environment.

Awareness of Negative Consequences (including social consequences or negative consequences such as hospitalisation) of having a Mental Illness was shared by five out of twelve scales (42%). Additionally, awareness of specific and global mental illness symptoms

were separated out to two constructs to reflect the description of the scales; however, if these were combined they were shared by seven out of twelve scales (58%).

It is important to note that in most cases the constructs allocated to each scale in Table 4 and the subscales reported in the description of scales in Table 3 were based on their theoretical constructs as descriptions within the short list of papers and not the empirical evidence investigating their actual psychometric properties. Additionally, there may be other constructs mentioned in conference abstracts, qualitative research and theoretical papers without data that could have been excluded from the study due the inclusion/exclusion criteria.

Table 5. Selected Articles by Clinician Rated Scales, Demographics and Key Psychometric Findings

Scale	Selected Article	Population	Setting / Severity	Demographics Age Mean & SD & Gender	Reliability			Validity
					Internal Consistency	Test-retest	Inter-rater Agreement	Construct Validity
SUMD	Amador *et al*., (1993)	Total n=43 n=36 schizophrenia n=7 schizoaffective disorder	In-patients	*x*=31.16 (SD=8.8) 31 males / 12 females	n/a	n/a	n=43 General items Current Mental Disorders Global awareness of mental disorder ICC= 0.89 Awareness of the achieved effects of medication ICC=0.75 Awareness of the social consequences of having a mental disorder ICC=0.68 General Item Past Mental Disorders: Global awareness of mental disorder ICC=0.78 Awareness of the achieved effects of medication ICC=0.89 Awareness of the social consequences of having a mental disorder ICC= 0.67 Current and retrospective awareness of symptoms subscale: ICCs ranged from 0.56 - 0.98, with 5 items <0.70. Current and retrospective attribution of symptoms subscales: ICC ranged from 0.11 - 0.98, with 8 items <0.70	n/a

SUMD-A	Lysaker *et al*. (1998)	Total n= 101 subjects n=86 Schizophrenia n=15 Schizoaffective disorder	Patients receiving treatment from the Veteran Association Medical Centre's Psychiatric Services. Post-acute or stable	Two group based on SUMD-A score Unimpaired insight group n=44 *x*=42.9 (SD 9.7) 41 male / 3 female Impaired insight group n=57 *x*= 44.3 (SD 7.3) 55 male / 2 female	n/a	n/a	n=16 (joint interviews) Awareness of disorder ICC = 0.94 Awareness of need for medication ICC = 0.94 Awareness of consequences of mental disorder ICC = 0.62 Not clear if sample was taken from Impaired or Unimpaired group	n/a
ITAQ	McEvoy *et al*. (1989)	Total n=52 Schizophrenia acute psychotic episode	In-patients	*x*=34 (SD 12) range18 - 61 28 males / 24 females	n/a	n/a	n/a	n=52 PCA indicated a single factor
SAI	David *et al*. (1992)	Total n= 91 52 definite schizophrenia 5 uncertain diagnosis of schizophrenia 12 definite or probable paranoid psychosis 11 Schizoaffective disorder 11 Other	74 in-patients 17 out-patients with a history of psychosis	*x*=31.4 (SD 9.8), range 1-65 60 males / 31 females	n/a	n/a	n=8 ICC=0.72 (whole scale)	n=91 PCA indicated a single factor solution Accounting for 60.2% of variance Factor loading ranged from 0.61-0.85. Correlations of the 4 SAI-E subscales 3 out of 6 correlations highly significant ($p<0.001$) with $r \geq 0.50$ Including Hypothetical contradiction and Recognition of Illness $r=0.75$ The weakest correlation, still significant ($p<0.02$) was between Compliance and Recognition of Illness $r=0.26$.
PANSS	Bell *et al.* (1992)	Total n=30 23 Schizophrenia 7 Schizoaffective Disorder	Medical Centre / accepted work placements	*x*=38 (SD 8.4) 28 male / 2 female	n/a	n/a	n=30 (one week +, comparing 2-3 judgments per subject) Item G12 only – Lack of Judgement and insight ICC=0.74	n/a

AII	Cuffel *et al.* (1996)	Total n=89 Schizophrenia	35 Hospital admissions 54 Medical centre	Age range 18-55. Gender not reported	n=89 Whole scale Cronbach's α = 0.84 Based on theoretical constructs of the scale Factor 1 – Awareness of Mental illness Cronbach's α = 0.86 Factor 2 – Perceived need for treatment Cronbach's α = 0.75	n/a	n=14 (raters sat in same interview) Whole scale ICC= 0.79 Factor 1 – Awareness of Mental illness ICC=0.81 Factor 2 – Perceived need for treatment ICC=0.75	n=89 CFA partially supported theoretical two factor solutions Factor 1 – Recognition of illness (3 items) Eigen value = 3.97. Factor loading ranged from 0.69-0.73 Factor 2 – Perceived need for treatment (4 items). Eigen value = 0.96. Factor loading ranged from 0.42 – 0.88. Both factors accounted for 69% of variance "Substantial" correlation between subscales scales *r*=0.59. 2 items from Factor 2 also loaded onto Factor 1 (0.56 & 0.67)
VAGUS -CR	Gerretsen *et al.* (2014)	Total n=226 Schizophrenia spectrum disorder (inc. 68 self-diagnosed)	Community patients of the Schizophrenia Program at the Centre for Addiction and Mental Health.	Total n=226 *x*=47.7 (SD 13.3) n=36 ≥ 60 years of age 147 male / 79 female	n/a	n=61 (1 month) Non-intervention study with stable patients Total scale ICC= 0.84 General Illness Awareness ICC=0.91 Symptom Attribution ICC=0.89 Awareness of Need for Treatment ICC=0.58 Awareness of Negative Consequences ICC=0.67	n=16 (same study visit) Total scale ICC= 0.99 General Illness Awareness ICC=0.99 Symptom Attribution ICC=0.99 Awareness of Need for Treatment ICC=0.81 Awareness of Negative Consequences subscale scores, respectively ICC=0.93	n=140 PCA suggested a single factor solution Explained 53.8% of variance Factor loading (5 items) ranged from 0.26 – 0.91, 1 item Awareness of Negative Consequences <0.30

Scale Abbreviations: SUMD – Scale to Assess Unawareness of Mental Illness (Amador *et al*., 1993). SUMD – A - Scale to Assess Unawareness of Mental Illness - Abbreviated Version (Amador *et al*., 1993). ITAQ - Insight and Treatment Attitude Questionnaire (McEvoy *et al*., 1989). SAI - The Schedule for Assessing the Components of Insight (David, 1990).). PANSS (item G12) - Positive and Negative Syndrome Scale item G 12, "Lack of insight and judgement" (Kay *et al*., 1987). AII - Awareness of Illness Interview (Cuffel *et al*., 1996). VEGUS – CR - VEGUS Insight into Psychosis Scale – Clinician Rated Version (Gerretsen *et al*., 2014). Statistics Abbreviations: *x* – Mean, SD – Standard deviation, ICC – Intraclass Correlation Coefficient, PCA – Principle components analysis. CFA – Confirmatory Factor Analysis

The Clinical Rated Scales: Theoretical Constructs and Psychometric Properties

The Scale to Assess Unawareness of Mental Illness (SUMD – Amador et al., 1993)

The development of the SUMD was focused mainly upon assessment of insight in schizophrenia, but was also designed to be used with other mental disorders. Therefore certain scale items are more relevant than others for particular diagnostic groups. The SUMD has general items used with each individual which Amador *et al.* (1993) state approximates the three most widely used definitions of insight: Global Awareness of Mental Disorder, Awareness of the Achieved Effects of Medication (Need for treatment) and Awareness of the Social Consequences of having a Mental Disorder. Further subscales assess awareness and attribution of specific signs and deficits associated with mental disorders. All scales have the option of being assessed retrospectively as well as currently.

In the Amador et al, (1993) study the inter-rater agreements for both current and retrospective time periods of Awareness of Mental Disorder (ICC=0.89 and 0.78) and Awareness of the Achieved Effects of Medication (ICC=0.75 and 0.89) were found to be acceptable. However, for both the current and retrospective time periods, inter-rater agreement for Awareness of the Social Consequences of having a Mental Disorder was not acceptable (ICC=0.68 and 0.67). A total of thirteen of the symptom specific subscales, in the Amador *et al.* (1993) were also less than satisfactory (ICC<0.70). Raters were trained to use the SUMD prior to assessing the sample group and ICCs were considerably lower prior to the training and calibration of the scores (ICC=0.05-0.99).

An abbreviated version (SUMD-A) is more specifically for schizophrenia. This version includes two global subscales of insight: Insight into having a Mental Disorder and Insight

into the Need for Treatment. Further subscales assess the awareness and attributions of specific symptoms associated with schizophrenia: Hallucinations, Delusions, Blunt Affect and Asocialty.

Lysaker *et al*. (1998) reported on the inter-rater agreement of the three global insight sub-scales, for a current time period, on the SUMD-A. They found the inter-rater agreement for Awareness of Mental Disorder and the Awareness for Need for Medication was acceptable (ICC=0.94 and 0.94) but the Awareness of Consequences of Mental Disorder was not acceptable (ICC=0.62).

The Insight and Treatment Attitude Questionnaire (ITAQ - McEvoy et al., 1989)

The construction of the ITAQ assessment was described as being based on the operationalisation of previous finding on insight. This included the findings that it was rarer for patients with psychiatric illnesses, compared to patients with other physical illnesses, to judge themselves as ill and in need of treatment (Small *et al*., 1964), with even 50% of voluntarily admitted psychiatric patients failing to acknowledge their need for hospital treatment (Applebaum *et al*., 1981). In addition, insight had been associated with greater expressed willingness to take medication (McEvoy *et al*., 1981). McEvoy *et al*. (1989) concluded that those patients who are more willing, at any given time, to state they are ill are more likely to cooperate with their treatment. This suggested that the two key theoretical concepts for their scales were an Acknowledgement of Mental Illness and an Acknowledgement of the Need for Treatment / Treatment Compliance.

McEvoy *et al*. (1989) carried out a Principle Component Analysis (PCA) and extracted a single factor. Therefore, the two theoretical constructs of Recognition and Acceptance of

Mental Illness and Need for Treatment / Treatment Compliance were not supported by their analysis. In addition, having identified a single factor solution, the total ITAQ score was used for any further analysis within the paper. Scoring was reached by rater consensus, and inter-rater agreement prior to consensus was not reported.

The Schedule for Assessing the Components of Insight (SAI - David, 1990)

David (1990) proposed that insight in psychosis was made of three overlapping components: Recognition of Mental Illness, Ability to Relabel Symptoms as Abnormal and Compliance with Medication. The SAI (David, 1990) is designed to assess these three components and a supplementary question "How do you feel when people don't believe you?" examines individuals' responses to a hypothetical contradiction. The SAI also has an extended version (SAI-E – Kemp & David,1997) which also measures the three main components, the supplementary hypothetical contradiction question and an additional 7-point overall compliance item. However, no paper reporting on the psychometric properties of the SAI-E was found in the literature search.

A PCA on the SAI gave a single factor solution with the first factor accounting for 60.2% of the variance (David *et al*., 1992). All items' loading were satisfactory (0.61-0.85) and an investigation into the correlations between the four subscales indicated all six correlations were significant. David *et al.* (1992) argued that, although a PCA gave a single factor solution, the pattern of inter-correlations between the theoretical components supported the hypothesis that insight was not a unitary construct but one composed of two or more related, but partially independent elements. David *et al.* (1992) also found satisfactory inter-rater

agreement (ICC=0.72) for the SAI. However, this was based on a small sample, reported on the scale as whole and not the individual domains.

The Positive and Negative Syndrome Scale – General Symptoms Subscale – Item 12 (PANSS – G12 Kay et al., 1987)

The PANSS (Kay *et al*., 1987) is a 30-item scale used for measuring the severity of symptoms, across three subscales (positive symptoms, negative symptoms and general symptoms) for individuals with schizophrenia. The latter subscale includes the item: "Lack of Judgment and Insight", providing a global rating based upon pre-set criteria linked to a number of domains within insight. These domains include: recognition of having a psychiatric disorder or illness, recognising the symptoms, the need for treatment and the consequences of the disorder. The majority of studies found in the literature search that examine the psychometric properties of the PANSS did not explore the properties of G12 specifically, other than to report on its factor loading when exploring the structural validity of the PANSS as a whole (for example: Bell *et al.*, 1994; Daneluzzo *et al*. 2002; Emsley *et al*., 2003). However, one paper, Bell *et al.* (1992), did report on the inter-rater agreement of G12. The sample was relatively small, however, inter-rater agreement was found to be acceptable (ICC=0.74).

Awareness of Illness Interview (AII - Cuffel et al., 1996).

The AII is divided into two subscales assessing Recognition of Mental Illness and Perceived Need for Treatment. The Recognition of Mental Illness subscale asks about the individuals' awareness of the symptoms or behaviours that led to them coming to hospital, recognition of mental health symptoms, and attributions of symptoms, behaviours, or distress to mental illness. The Perceived Need for Treatment subscale assesses individuals' perceived need for

any type of mental health treatment, perceived effectiveness of the psychotropic medication and outpatient treatment and likelihood of seeking psychiatric treatment on an outpatient basis.

Cuffel *et al*. (1996) reported partial support for a two factor model. However, they also reported a "substantial" correlation between the subscales and a number of items cross loading onto both factors. Further analysis within the paper used a single factor where one of the seven items had a factor loading <0.30. The internal consistency for the scales as a whole and for the Awareness of Mental Illness and the Perceived Need for Treatment were acceptable (α=0.75-0.86). Inter-rater agreements for the scales and subscales were also acceptable (ICC=0.75-0.81) although this was based on a relatively small sample.

VEGUS Insight into Psychosis Scale – Clinician Rated Version (VEGUS-CR - Gerretsen et al., 2014)

The VEGUS-CR is based on existing scales, namely the ITAQ (McEvoy *et al*., 1989), SAI (David *et al*., 1992), SUMD (Amador *et al*., 1993) and BIS (Birchwood *et al*., 1994) and includes four dimensions on insight: General Illness Awareness, Awareness of Need the Treatment, Awareness of Negative Consequences and Symptom Attribution. An overall composite score provides an overall level of insight based on the single factor model of insight into illness and need for treatment.

Gerretsen *et al*. (2014) argued that a PCA indicated a single factor. However, this only accounted for 53.8% of the variance and the single item of Awareness of Negative Consequences factor loading was <0.30. Inter-rater agreements for all subscales, based on a relatively small sample and the same study visit, were acceptable (ICC=0.81-0.99). However,

test re-test on a larger sample and after a longer interval of a month found both the Awareness of Need for Treatment and Awareness of Negative Consequences inter-rater values were less than acceptable (ICC=0.58 and 0.67). This sample was assumed to be stable having been selected from a non-intervention population. However, leaving a one month gap between ratings could be argued to be an excessive amount of time and no evidence was provided to indicate patients were stable between the two time periods.

Table 6. Selected Articles by Self-Reporting Scales, Demographics and Key Psychometric Findings

Scale	Selected Article	Population	Setting / Severity	Demographics Age Mean & SD & Gender	Reliability		Validity
					Internal Consistency	Test-retest	Construct Validity
VAGUS -SR	Gerretsen *et al.* (2014)	Total n=226 Schizophrenia spectrum disorder (inc. 68 self-diagnosed)	Community patients of the Schizophrenia Program at the Centre for Addiction and Mental Health.	Total n=226 *x*=47.7 (SD 13.3) n=36 ≥ 60 years 147 male / 79 female	n/a	n=69 (1 month) Non-intervention study with stable patients Total scale ICC= 0.91 General Illness Awareness ICC=0.85 Symptom Attribution ICC=0.85 Awareness of Need for Treatment ICC=0.89 Awareness of Negative Consequences ICC=0.70	n=215 PCA suggested three factor solutions Explained 63.1% of variance Factor1 – Illness Awareness, Symptom Attribution & Awareness of Need of Treatment. Factor loading (5 items) ranged from 0.47-0.79 Factor 2 – Awareness of Negative Consequences. Factor loading (3 items) ranged from 0.46-0.66 Factor 3 – Symptom Misattribution. Factor loading (2 items) ranged from 0.74 and 0.83.
BIS	Birchwood *et al*. (1994)	Total n=133 Schizophrenia Schizophrenic-form disorder Paranoid psychosis Brief reactive psychosis	30 Acute - Hospital admission 46 Chronic – Depot maintenance clinic 37 Social Service Day Centre 20 Rehabilitation Day Centre	*x*= 35 (SD 12), 95 male / 38 female	n=133 Cronbach's α = 0.75 (whole scale)	n/a	n=133 PCA indicated a single factor solution. Eigen value of 1.8. Accounting for 60.4% of variance. Factor loadings for the subscales were: Relabelling symptoms 0.44 Awareness of illness 0.67 Need for treatment 0.70. NB Statistics based on each subscales as a single item Correlation between subscales ranged from *r*=0.33-0.55, all were highly significant (*p*<0.001)
		n=20 (included in n=133)	Rehabilitation Day Centre Stratified sample based on BIS scores	*x* = 28 (SD 6) 15 male / 5 female	n/a	n= 20, one week interval Whole scale *r*= 0.90 Relabelling symptoms *r*=0.65 Awareness of illness *r*=0.80 Need for treatment *r*=0.96	n/a

BIS	Cleary *et al*. (2014)	n=327 Whole First Episode of Psychosis Sample 196 Schizophrenia 46 Schizophreniform Disorder 42 Psychotic Disorder not otherwise specified 32 Schizoaffective Disorder 6 Brief Psychotic Disorder 5 Delusional Disorder	n=165 First Episode Psychosis Test sample Inpatients hospitalized for a first-episode psychosis	n=165 First Episode Psychosis Test sample *x*=24.00 (SD 5.1) range 18-39 118 male / 47 female	One factor solution with all 8 items Cronbach's α= 0.78 One factor solution without item 1 Cronbach's α= 0.80	n/a	n=163 Exploratory Factorial analysis on 1, 2 & 3 factor solutions using MLR. 3 factor solution – to reflect construct design structure of BIS. $\chi 2=50.19 p<0.0001$ providing some argument for goodness of fit Once cross loaded items removed, 3 items dropped, 2 factors had only 1 item Single factor solution, most acceptable, with 7 / 8 items loading significantly on 1 factor. Single factor solution improved by eliminating item 1 with factor loading <0.30
		n=168 First Episode Psychosis Validation sample	Inpatients hospitalized for a first-episode psychosis	n=168 First Episode Psychosis Validation sample *x*=23.5 (SD 4.3) range 18-38 130 male / 38 female	n/a	n/a	n=164 CFA on 1 factor 8 items, 1 factor 7 items and 3 factors to reflect construct design structure of BIS. Single factor solution with 8 items factor loading 0.36-0.77 Single factor solution with 7 items (eliminating item 1) factor loading 0.64-0.77 Lowest AIC and BIC for this model indicating best fit Three factor solution – based on theoretical constructs Relabelling Symptoms (2 items) factor loading 0.36 & 0.71 Need for Treatment (4 item) factor loading 0.69-0.77 Awareness of Illness (2 items) factor loading 0.82 & 0.82 All items loaded significantly on subscales. However, correlation between three subscales >0.55, supporting a single factor solution.
IS-R	Markova *et al*. (2003)	Total n=64 Schizophrenia.	Acute/chronic psychosis New onset of disorder/long history of disorder Acute in-patient Rehabilitation wards Out- patient	*x*=40.02 (SD12.09) range 20-67 40 male / 24 female	n=64 Cronbach's α = 0.875 (whole scale)	n= 10 (one day interval) *r*=0.651 *p*<0.05 ICC=0 .79 (*p*<0.011).	n=64 PCA indicated 4 factors Degrees of Certainty with which Patients Experienced or Articulated their Experience of Change (8 items) Domains of Change (6 items) Focus of Change (3 items) Attribution of Cause of Change (2 items) Lowest Eigenvalue = 2.00. Accounted for 48.27% of variance. Factor loading for all 30 items ranged 0.53-0.77. However only 19 out of 30 items loaded

BCIS	Beck *et al*. (2004)	Group 1 Total n=75 Schizophrenia or Schizoaffective disorder 43 schizoaffective disorder 26 paranoid schizophrenia 6 undifferentiated schizophrenia	In-patients	*x*=38.92 (SD = 11.44) 37 male / 38 female	Group 1 n=75 Schizophrenia or schizoaffective disorder Factor 1 - Self – reflection - Cronbach's α=0.67 Factor 2 – Self-certainty - Cronbach's α=0.61	n/a		n/a
		Group 2 Total n=75 Major depression disorder 16 psychotic depressives 59 with psychotic features	In-patients	*x*= 37.89 (SD = 11.70) 40 male / 35 female	Group 2 n=75 Major depressive disorders Factor 1 - Self – reflection - Cronbach's α=0.69 Factor 2 – Self-certainty - Cronbach's α=0.59	n/a		n/a
		n=150 Group 1 & 2 combined 75 Schizophrenia & Schizoaffective disorder 75 Major depression disorder	Group 1 & 2 combined	Group 1 & 2 combined	n=150 Group 1 & 2 combined Factor 1 - Self – reflection - Cronbach's α=0.68 Factor 2 – Self-certainty - Cronbach's α=0.60	n/a	n=150 Groups 1 and 2 combined PCA" suggested simplest structure" as a two factor solution Accounted for 32% of variance. Factor 1 – Self – reflection Individual items factor loading ranged from 0.33-0.66 Factor 2 – Self-certainty Individual items factor loading ranged from 0.25-0.66, 1 item <0.30 Correlation between subscales *r*=0.16, not significant	
BCIS	Greenberger and Serper (2010)	Total n=50 Schizophrenia Spectrum or Schizoaffective Disorder	In-patients / Acute	x=47.26 (SD = 11.59) range 23-65 31 male / 19 female	Self-reflection subscale Cronbach's α=0.61 Self-certainty subscale Cronbach's α=0.84 Pearson's correlation between subscales *r*= -0 .07, p>0.05	n/a		n/a
BCIS	Pedrelli *et al*. (2004)	Total n=164 119 Schizophrenia 45 Schizoaffective Disorder	Out-patients - Advanced centre for interventions and services research (ACISR)	*x*=53.25 (SD 7.84), range 40 - 77 133 male / 51 female	Whole scale Cronbach's α=0.66 Self- Reflectiveness Cronbach's α=0.70 Self-Certainty Cronbach's α=0.55	n/a	CFA indicate single factor solution did not fit data based on 3 out of 4 goodness of fit indicators $\chi 2$ (p>0.05), CFI = 0.76, NNFI = 0.75. and RMSEA= 0.058 Conversely 2 factor solution, based on 2 subscale design of BCIS fitted well statistically $\chi 2$ (p<0.05), CFI = 0.96, NNFI = 0.96 and RMSEA= 0.025. Despite goodness of fit: Self-reflection subscale (9 items) loading ranged from 0.08-0.72 (2 items <0.30) Self-certainty subscale (6 items) loading ranged from 0.21-0.63 9 (2 items <0.30) Significant correlation between the factors (*r* =0.35, *p*>0.05)	

SAIQ	Marks *et al*. (2000)	Total n=59 42 Schizophrenia 17 Schizoaffective	Community mental health team centre 45 Out-patients 14 Residential	*x*=42.70 (SD 10.8) 45 male / 14 female	n=59 Total Scale (17 items) Cronbach's α= 0.83 Factor 1 – Need for treatment (6 items) Cronbach's α= 0.86 Factor 2 – Worry (7 items) Cronbach's α= 0.77 Factor 3 – Presence / Outcome of Illness (4 items) Cronbach's α= 0.72	n/a	n=59 Forced three factor extractions to reflect theoretical constructs Accounted for 56.3% of total variance Factor 1 – Need for treatment (6 items). Eigen Value 5.17. Factor loading ranged from 0.67-0.82 Factor 2 – Worry (7 items). Eigen Value 2.71. Factor loading ranged from 0.49-0.74 Factor 3 – Presence / Outcome of Illness (4 items). Eigen Value 1.70. Factor loading ranged from 0.57-0.68 Presence / Outcome of illness & Need for Treatment, r=0.51 p<0.01 No other significant correlations found (p<0.01)

Scale Abbreviations: VEGUS – CR - VEGUS Insight into Psychosis Scale – Clinician Rated Version (Gerretsen *et al*., 2014). VEGUS – SR - VEGUS Insight into Psychosis Scale – Self – Report Version (Gerretsen *et al*., 2014). BIS - Birchwood Insight Scale (Birchwood *et al*., 1994). IS-R - Insight Scale - Revised (Markova *et al*., 2003). BCIS - Beck Cognitive Insight Scale (Beck *et al*., 2004). SAIQ - Self-appraisal of Illness Questionnaire (SAIQ) – (Mark *et al*., 2000). Statistics Abbreviations: x – Mean, SD – Standard deviation, ICC – Intraclass Correlation Coefficient, PCA – Principle components analysis, CFA – Confirmatory Factor Analysis, AKI – Akalike Information Criteria, BIC - Bayesian Information Criteria, $\chi 2$ – Chi-squared Test, CFI – Comparative Fit Index, NNFI - Non-normed Fit Index and the RMSEA - Root Mean Square Error of Approximation.

The Self-Reported Scales: Theoretical Constructs and Psychometric Properties

VEGUS Insight into Psychosis Scale – Self Reported (VAGUS – SR - Gerretsen et al., 2014)

The VEGUS – SR, similar to the VEGUS – CR has four dimensions: General Illness Awareness, Awareness of Need the Treatment, Awareness of Negative Consequences and Symptom Attribution. An overall composite score provides an overall level of insight based on the single factor model of insight into illness and need for treatment.

The Gerretsen *et al.* (2014) study conducted a PCA which indicated three factors. The first factor was labelled Illness Awareness, Symptoms Attribution & Awareness of Need for Treatment. The second factor was named Awareness of Negative Consequences and the third factor was labelled Symptom Misattribution. These results did not appear to reflect the theoretical constructs of the subscales or suggest a single factor model of insight into illness and need for treatment. A test-retest on the theoretical constructs of the scale found that ICCs for all four subscales on the self-reported version were acceptable (ICC=0.70-0.89). However, ICC values on the three factors identified in the PCA were not reported.

The Birchwood Insight Scale (BIS - Birchwood et al., 1994)

The BIS is theoretically based on a tri-dimensional model with subscales labelled: Awareness of Mental Illness, Attributing / Relabelling of Symptoms, and Need for Treatment.

Two studies (Birchwood *et al.*, 1994: Cleary *et al.*, 2014) examined the psychometric properties of the BIS (see Table 6). Factorial analyses indicated a single factor in both studies, with acceptable internal consistency for the scales as a whole (α=0.75-0.78). However, the Cleary et al., (2014) study consistently found, through an EFA and then a CFA,

the single factor's psychometrics could be improved if one of the eight items, item one, was removed from the scale.

The Insight Scale - Revised (IS-R - Markova et al., 2003)

Markova and Berrios (1992) argued that previous definitions of insight including awareness of illness, recognition of the need for treatment and the ability for the patient to identify and label psychotic phenomena were limited. They argued a broader definition was required and argued that insight should be considered a subcategory of self-knowledge, which individuals hold not only about the disorder but also about how the disorder affects their interactions with the world. The assumption underpinning their scale was that when individuals become unwell a number of cognitive and experiential changes occur affecting their self-perception, their perception of their environment and the interaction between these. Therefore, insight was a measurement of the awareness of these changes and an acknowledgment of the difference within themselves and with their interaction with the outside world. The original version of the IS contained 32 items. Items were chosen by face value and broken down into concepts of self regarding: hospitalisation, mental illness in general, perception of illness, changes in self, control over the situation, perception of the environment and wanting to understand the situation. Markova *et al*. (2003) refined the original scale to make some of the items less ambiguous, in terms of their wording and reflection of the underlying concept of insight. For example, items relating to views about hospitalisation or taking medication were deleted and greater focus was given to awareness of changes in self and one's relationship to the environment.

The Markova *et al.* (2003) study found four factors, using an EFA, which they interpreted as: Degrees of Certainty with which Patients Experienced or Articulated their Experience of

Change, Domains of Change (Self, environment or both), Focus of Change (Thoughts or feelings) and Attribution of Cause of Change. Whereas, it could be argued that these subscales reflect different aspects of awareness and acknowledgments of awareness of changes of self, the environment and their interaction, the combined items only explained 48% of the variance. Also of note was that these four factors had a total of 19 out of 30 items, suggesting that eleven items were excluded from the four factor solution (see Markova *et al.*, 2003, p85 Table 2). Markova *et al.* (2003) concluded that a CFA would need to be conducted to investigate these findings further. The Cronbach's α reported for the whole scales was acceptable (α=0.88), however, Cronbach's α values for the individual subscales were not reported.

The Beck Cognitive Insight Scale (BICS - Beck et al., 2004)

Beck *et al*. (2004) suggested that clinical measurements of insight have focused primarily on patients' unawareness of their having a mental disorder and of their need for treatment. They proposed an alternative approach to understanding and assessing insight based on the cognitive processes that involve patients' ability to evaluate or distance themselves from unusual experiences and misleading influences, namely cognitive insight. The BCIS was designed to measures cognitive insight along two dimensions. The first, Self-Reflectiveness, was designed to assess patients' ability to evaluate their cognitive distortions and their ability to put errors of thinking into perceptive. The second factor, Self-Certainty, was designed to measure patients' openness to corrective feedback involving their flexibility in accepting alternative explanations for unusual experiences and distorted beliefs. A composite Reflectiveness – Certainty index, or R-C index, is obtained by subtracting the total score of Self-Certainty subscale from the total Self-Reflectiveness subscale: this being considered a measure of cognitive insight.

Three studies examined the psychometric properties of the BICS (Beck *et al*, 2004; Greenberger & Serper, 2010; Pedrelli *et al*., 2004). A PCA in the Beck *et al*. (2004) study and a CFA in the Pedrelli *et al*., 2004 study both confirmed that a two factor structure existed within the scale. However, the internal consistency was not acceptable across studies (see Table 6). It should also be noted that in the Beck *et al.* (2004) study the two factor solution could only account for 32% of the total variance. In addition, 50% of the PCA sample were participants without a schizophrenic illness (those who had major depressive disorder) and the remaining 50% were made up of Schizophrenia and Schizoaffective Disorder and the data was not analysed separately according to diagnosis.

The Self-Appraisal of Illness Questionnaire (SAIQ - Mark et al., 2000)

The SAIQ was adapted and modelled after the Patient's Experience of Hospitalisation Questionnaire (PEH - Carsky *et al*., 1992) for use in a community setting. The original PEH was developed for use in psychiatry hospital settings and Marks *et al.* (2000) reported that the original creators of the PEH conceptualised the scale as an instrument to assess the acknowledgement and denial of illness. However, Marks *et al*. (2000) conceptualised the SIAQ as a measure of attitude towards illness because they believed the questionnaire addressed a broader scope of subjective experience with illness beyond simply acknowledgement and denial of illness. For example, items in both questionnaires ask how much the respondent worries about their illness which they believed represented a reaction or way of coping with illness rather than of acknowledgement or denial of the illness. Mark *et al*. (2000), based on the face value on the items, predicted that a factor analysis of the questionnaire would identify three factors: Need for Treatment, Worry, and Presence/Outcome of Illness. They also noted that whilst the SAIQ was designed to measure

attitudes toward illness, the content of many of the SAIQ items were similar to the content of structured interviews used by clinicians and researchers to assess insight into illness.

The Mark *et al.* (2000) paper conducted a CFA, based on their predicted three factor structure. The results supported the three factor solution, however two factors Need for Treatment, and Presence / Outcome of Illness were significantly correlated ($p<0.01$) and shared over 50% of the variance. The internal consistency for all three subscales was acceptable (α =0.72-0.86).

2.5 DISCUSSION

The aim of this review was to identify and describe the constructs of insight and associated assessment tools used in literature, and provide a brief evaluation of the psychometric properties of these measures. This was in the context that recent empirical examination of insight in psychotic disorders had resulted in further advances in its conceptualisation (Amador & Kronengold, 2004; Mintz *et al*., 2003; Osatuke *et al*., 2008; Schwartz *et al*, 2000). This was also in the context of the need to clarify the concept of insight being investigated in the research (Chakraborty & Basu, 2010) and evaluate the measures used (Amador & David, 2004; Ghaemi & Pope,1994; Mintz *et al*., 2002).

Two theoretical constructs, based on the models utilised in scale descriptions, appeared to be the most prominent (see Table 4). These core constructs broadly defined as “awareness of having a mental illness” and “awareness of the need for treatment”. Other prominent constructs were related to awareness of negative consequences of having the illness and being able to attribute either specific or generic symptoms to the mental disorder. These clinically

related themes suggested that the majority of the theoretical constructs and associated measures were influenced by the biomedical framework (Tranulis *et al*., 2008). Although most of these assessment constructs did not have empirical support.

All five of the self-reporting scales had one or more studies that explored their factorial structures. The BIS was also found to best fit a single factor solution contrary to the three theoretical domains and the VEGUS-SR found three of the theoretical constructs Awareness of Illness, Symptom Attribution and Awareness of Need for Treatment were combined. The SAIQ was able to support a three factor solution that fitted with its theoretical constructs. However, significant correlations were also found with two of the factors, Need for Treatment and Presence / Outcome of Illness. A remaining factor, Worry was seen as a more independent variable. Mark *et al*. (2000) suggested that the Worry subscale may be representative of an attitude or coping approach toward illness or it may be a component of insight that is not traditionally considered by clinicians.

Four out of seven of the clinician rated scales conducted a factorial analysis. Three out of those four scales (ITAQ, SAI and VAGUS – CR), all found that a factorial analysis suggested a single factor solution, contrary to their theoretical constructs and proposed subscales. There was "partial" support for AII's two theoretical constructs of "Recognition of Illness" and "Perceived Need for Treatment". However, these were described as having a "substantial" (r=0.59) correlation (Cuffel *et al*., 1996).

These findings might indicate that most of the scales were tapping into a global domain of insight that included elements of awareness of illness and need for treatment and that most of the others might also be tapping into elements of labelling symptoms and awareness of the

consequences of illness included within a single global domain. McCormack *et al.* (2013) proposed that current theories of insight can be divided into four broad categories of Psychological Defence Mechanism, Cognitive Deficits, Deficit in Neurological Mechanism and Disagreement of Diagnostic Label. One of the more recent scales, the BCIS, places more emphasis on the cognitive processes and therefore cognitive deficits to help explain insight. This moves away from purely clinical insight, related to items about the illness and symptoms and suggests it is made up of two components, self-reflection and self-certainty. These two separate and distinct factors found consistent support within the empirical evidence (Beck *et al*., 2004; Pedrelli et al., 2004). Although, these two factors could only account for 32% of the variance and the internal consistency for both subscales was found to be less than acceptable in two out of three studies (Beck *et al*., 2004; Greenberger & Serper, 2010; Pedrelli *et al*., 2004). The other non-clinical scale, IS-R, that proposed the concept that insight was the awareness of change in the individual and interactions with the environment found a four factor solution, that accounted for 48% of the total variance and concluded further factorial analysis on the scale was required.

The clinician rated assessments that did not conduct a factor analysis tended to examine inter-rater reliability (SUMD, SUMD-A & PANNS). One SUMD / SUMD-A subtheme of Awareness of Social Consequences of having a Mental Disorder was found to be unacceptable across two different studies (Amador et al., 1993; Lysaker et al., 1998). The PANSS demonstrated acceptable inter-rater agreement, although it was one single item that encompassed four different conceptual domains of insight (see Table 4.)

Study Limitations

The systematic review had a number of limitations. The search strategy excluded foreign language journals or studies on the psychometric properties of scales adapted for foreign languages. Other commonly used structured assessments for generic mental health such as the Mental Health Status Examination, which includes an item on insight, were not included. Conference abstracts reported to be a particularly important source of grey literature (Lefebvre *et al*., 2008) were also excluded.

The evaluation of the psychometric properties of the measures was limited, excluding an investigating into a number of domains in the COSMIN checklist (Terwee et *al*., 2012) such as: measurement error, content validity, hypothesis testing, cross-cultural validity, criterion validity and responsiveness. Other properties not explored, but featured in other forms of quality criteria for healthcare measures such as the Scientific Review Criteria (Lohr *et al.*, 1996), included respondent and administrative burden. The evaluation of the statistical values to establish if the psychometric properties were within the acceptable range was also limited in scope. A more detailed analysis, particularly when examining the structural validity of the scales, might include an evaluation on the appropriateness of the statistical tests used and the generalisability of the findings.

Conclusion

Taking the above limitations into account, this review has sought to highlight the theoretical constructs used in current measures of insight and the variations across different measures. However, in the vast majority of studies, empirical evidence did not support the division of insight into sub-domains; something that is proposed by the authors of each scale. Instead,

the evidence gathered within these studies would suggest that insight is a single factor, albeit that it may comprise of a combination of different elements. Scale development appeared to have been theory driven, yet no one scale appears to provide robust psychometric properties that would support differentiation between all the identified domains of insight. Also of note were below acceptable inter-rater agreement and internal consistency for some of the measures and the methodological quality of elements of the individual papers which could also impact on the replicability and interpretability of a study. Thus, it appears that differing concepts of insight have been used to develop individual measures, but, regardless of this, the data do not necessarily support the majority of scales that are available within the literature. Further work to clarify aspects of insight that are important areas for intervention, along with the provision of data to support these, should continue to be a focus for on-going research.

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3. RESEARCH PROJECT:

An Exploration of Current Practices in the Assessment and Intervention of Insight in Psychosis within Scotland's Forensic Mental Health Services: Clinical Psychologists' Perspective

3.1 ABSTRACT

Insight in psychosis is particularly relevant to Forensic Mental Health Services, given its link with offending behaviour and risk to others. However, there are no current guidelines that specifically target the assessment, or intervention, of insight. Therefore this study aimed to explore current practices, as described by experienced clinicians. Transcripts from eleven qualified Clinical Psychologists were analysed using Thematic Analysis. Three overarching themes were identified. The first "risk related" illustrated the influence of risk to others when assessing and treating patients. The second "holistic approach" illustrated that insight or mental illness was rarely looked at in isolation. The third theme "no specific or satisfactory unified approach" illustrated the diversity of the conceptualising, assessment and treatment of insight. Opportunities exist to develop a more uniformed approach and to introduce or develop outcome measures for interventions.

Written up as per author guidelines for Journal of Nervous and Mental Diseases (see Appendix 1. Journal of Nervous and Mental Diseases – Authors Guidelines).

3.2 INTRODUCTION

Insight and Psychosis: Clinical & Forensic Relevance

Psychosis, by its very definition, is a disturbance in perception of reality and poor insight is often, but not always, associated with the clinical presentation (McCormack *et al*., 2013). Poor insight also has clinical significance as a predictor of non-adherence to treatment, increased number of relapses, hospitalisations and recovery (Amador, 2006). Assessing and treating insight is also particularly relevant given the Scottish Government's continued trend to move mental health patients from hospitals and secure settings to care in the community (Scottish Government, 2012). Poor insight in forensic mental health services is also

significant as a predictor of risk of violence (Buckley *et al*., 2004; Waldheter *et al.,* 2005; Woods *et al*., 2003; Yen *et al.,* 2002). The Mental Health (Care and Treatment) (Scotland) Act 2003, introduced "significant impaired decision-making ability" (SIDMA) as a criteria for compulsory treatment. SIDMA occurs when a mental disorder affects the person's ability to believe, understand and retain information, and to make and communicate decisions. The Act requires medical practitioners to state the reasons for believing the criteria of SIDMA are satisfied. Shek *et al.* (2014) examined one hundred mental health reports for compulsory treatment order applications and found more than half noted lack of insight as the main cause of SIDMA.

Theories of Insight in Psychosis

Early research and practice has drawn on psychodynamic concepts of insight (Amador & Kronengold, 2004). This led to a premature consensus, based largely on single case studies and anecdotal evidence, that poor insight was the result of unconscious psychological defences or a conscious coping strategy (Amador & Kronengold, 2004). The next model to emerge was the biomedical model. David (1990) suggested insight had three components: awareness of illness, the capacity to re-label psychotic experiences as abnormal, and treatment compliance. This biomedical framework influenced how insight was assessed in practice (Tranulis *et al*., 2008). However, in more recent years, there has been an empirical examination of insight in psychotic disorders, particularly with neurology and neuropsychology, resulting in further advances in our understanding (Amador & Kronengold, 2004; Mintz *et al*., 2003; Osatuke *et al*., 2008; Schwartz *et al*, 2000).

McCormack *et al.* (2013) proposed that current theories for insight can be divided into four broad categories: (i) psychological defence mechanism or coping strategy in the form of denial, either to maintain self-esteem or to retain a positive outlook; (ii) cognitive deficits, resulting in the patients' inability to recognize that they suffer from a disorder; (iii) deficit in neurological mechanism similar to anosognosia where lack of insight is caused by disease; and (iv) disagreement of diagnostic label, which may reflect the disagreement between the patient and clinicians over the diagnostic label; however, similarly to psychological defense mechanism, McCormack *et al*. (2013) suggest this might also reflect an unwillingness to be labelled with psychosis and the negative connotations associated with this. However, given the multi-dimensional characteristics of insight, no single model is adequate (Cooke *et al*., 2005; McCormack *et al*., 2013; Osatuke *et al*, 2008).

Treatment of Psychosis and Insight

The Institute for Health and Care Excellence's (NICE, 2014) evidence based recommendations for the treatment of psychosis are anti-psychotic medication in conjunction with individual cognitive behaviour therapy (CBT) and family intervention. NICE (2014) do not specifically recommend treatment for improving insight as such; however their guidance for CBT therapy is that it should include the re-evaluation of patient's perceptions, beliefs or reasoning related to the target symptoms. Steel (2013) also points out the importance of developing a therapeutic relationship, whilst also highlighting particular difficulties and challenges of engaging this particular group in CBT. Berry and Haddock (2008) note earlier NICE guidelines specifically recommended CBT to assist in the development of insight; however these recommendations were not based on randomised clinical trials. The Scottish Intercollegiate Guidelines Network's (SIGN) (2013) national clinical guidelines do not

specifically recommend intervention for insight. However, they state psychological therapies and psychosocial interventions have a role to play in supporting recovery through a range of heterogeneous aims, which include insight and understanding, and reported finding improvements in insight through psycho-education. The Matrix (Scottish Government, 2011), also recommends CBT and family interventions for adults with psychosis, but does not identify specific treatment for insight. Other therapeutic approaches that have been applied to psychosis include, among others, Cognitive Analytical Therapy (CAT) and Mentallisation. The CAT model describes and accounts for many psychotic experiences and symptoms arising from interpersonal experiences which constitutes the basis of all mental activity, normal or otherwise (Kerr *et al*., 2003). Metallisation-based Psychodynamic Psychotherapy which targets impairments of awareness of self and others, sees psychosis as a disturbance in this awareness (Brent, 2009).

Effectiveness of Treatment for Insight in Psychosis

McCormack *et al.* (2013) reviewed 50 papers on the impact of CBT on insight. They found that most research for CBT for psychosis did not necessarily include outcome measures specifically for insight. Henry and Ghaemi (2004) conducted a systematic review of treatments for insight in psychosis. They suggested psycho-education had possible benefits on insight, based on six identified studies. The one cognitive behavioural psychotherapy study and two psychoanalytically orientated studies indicated no noticeable beneficial effects on insight. Although, Henry and Ghaemi (2004) suggested the measure of insight for the psychoanalytically studies had not been psychometrically validated. Pijnenborg *et al*. (2013) conducted a meta-analysis of the effectiveness of psychological and pharmacological

interventions on insight in psychosis. They found small to moderate, but not significant, effects of CBT, Adherence Therapy and Psycho-education.

Assessment and Measures of Insight

McCormack *et al.* (2013) reported that when outcome measures for insight were used in research they did not capture the multi-dimensionality of insight. Slack *et al.* (in prep) identified twelve scales used to quantifiably measure insight in psychosis in a systematic review into the construct and measures of insight. Two theoretical constructs appeared to be the most prominent, broadly described as awareness of having a mental illness and awareness of the need for treatment. Other prominent constructs were described as awareness of the negative consequences of illness and being able to attribute either specific or generic symptoms to the mental disorder. Outside of these core concepts other scales and domains of interest were around responses to a hypothetical scenario of having beliefs challenged by medical professionals (David, 1990) and certainty of belief (Beck *et al*., 2004). Most of the scales focused primarily on patients' clinical insight, their awareness of having a mental illness, symptoms and need for treatment. The Beck Cognitive Insight Scale (BICS, Beck *et al*., 2004), however, includes a subscale called "Self-reflectiveness", with a greater focus on the cognitive processes involved in patients' self-reflectiveness.

Assessing Insight and Risk of Violence

The assessment of insight within forensic services is rarely seen outside the contexts of risk and offending behaviour. One of the most widely used risk of violence assessment instruments is the Historical, Clinical and Risk Management (HCR-20) (Douglas *et al*.,

2014). The HCR-20 V2 (Webster *et al*., 1997) includes the item "Lack of Insight" within its clinical subscale. This single item is described as multi-dimensional and can be applied to the extent the person is aware of their mental illness, effects of medication on their condition, appreciates the social consequences of the mental disorder and the possible risk of violence they might pose. The revised HCR-20 V3 (Douglas *et al*., 2013), yet to fully replace the HCR-20 V2 (Webster et al., 1997) in Scotland, also includes the "Lack of Insight" item which includes three elements: insight into mental disorder; insight into violence risk and insight into the need for treatment (Douglas *et al*., 2013). The insight item within the HCR-20, with its multiple domains and crude scoring system does not provide a particularly sensitive assessment tool. However, it helps to identify established risk factors, treatment needs and targets for intervention (Douglas *et al*., 2013). This function is of particular value given the change in emphasis in managing schizophrenia and mentally disordered offenders from one of risk management to that of engagement in treatment (NICE, 2014; Scottish Government, 2005).

This Study

Research into the assessment and intervention of insight has, to date, prominently focused on generic populations. However, insight in psychosis is an intricate part of clinical practice in forensic mental health services and particularly relevant given its link with offending behaviour and risk to others and the bases for the majority of compulsory treatment orders. However, outside of those provided by risk appraisal tools, there are no current guidelines that specifically target the assessment of, or intervention with, insight. Therefore, this study aims to explore current practices from the "bottom up". Experienced clinicians were interviewed about how they conceptualise, assess and treat insight and salient patterns of

content will be analysed to help develop a conceptual framework of current practices. This could then be considered in the context of emerging concepts of insight, with a view to developing a better knowledge and understanding of these practices. An additional aim of the project was to explore the emerging body of empirical research to see if it could provide additional guidance to current practices.

3.3 METHOD

Participants

Participants were qualified Clinical Psychologists, with a minimum of one year's experience working within Forensic Mental Health Services in NHS Scotland, either as a trainee Clinical Psychologist or post qualification. Participants' experience needed to include working with the forensic adult population and psychosis. A total of 17 potential participants agreed to take part in the research. Three, the last 3 to declare an interest, were placed on the waiting list, 2 did not confirm availability for interview, and 1 did not meet the inclusion criteria and was therefore excluded from the data analysis. Therefore, a total of 11 participants were included in the study. Three males and 8 females took part. Average age was 37 (range 27-53). Average years qualified was 6.8 (range 0.75-28 years). Average years of experience in Forensic Mental Health Adult Services in NHS Scotland (trainee placements included) was 6.8 (range 2-28 years). Settings for forensic experience included: High Secure (5), Medium Secure (8), Low Secure and Forensic Community Services (8). Participants reported that the majority of the cases they worked with were related to psychosis, 6 participants had experience working (partly or exclusively) with females and all 11 participants had worked with male, adult forensic populations.

NHS Approval and Ethics

IRAS R&D approval was sought from 9 NHS Boards with established Forensic Mental Health Services within Scotland and only one was unable to support the research. Approval from Edinburgh University ethics committee was also obtained (see Appendix 5).

Study Design and Procedures

The research was a qualitative study using thematic analysis (Braun & Clarke, 2006) of interviews with qualified forensic clinical psychologists. Clinical Psychologists, identified by Heads of Service or Departments and the research project's Clinical and Academic Supervisors, were approached by phone, email, or face-to-face and given a brief outline of the research (see Appendix 6). Those who then expressed an interest in taking part were encouraged to contact the Chief Investigator directly and were provided with more detailed information on the project and what participation would actually involve prior to giving their consent (see Appendix 7). The research interviews, average length 48 minutes (range 40-65 minutes), were semi-structured (see Appendix 8 for interview guideline) and audio-recorded by the Chief Investigator at the participant's place of work.

Research Data and Analysis

The research interviews, once anonymised and transcribed verbatim, formed the research data. The thematic analysis followed guidelines by Boyatzis (1998) broken down into the following 6 phases (Braun & Clarke, 2006):

Table 6. The 6 Phases of Thematic Analysis (Braun & Clarke, 2006)

Phase	Phase Name	Description of Phase
One	Familiarisation of the data	Developed a feel for the data and emerging patterns, by transcribing and continuously reviewing the raw data.
Two	Generating initial codes	Generated initial data driven codes, based on emerging themes from the raw data.
Three	Searching for themes	Focused the analysis at a broader theme level and sorted the coded data into themes, in discussion with academic supervisors..
Four	Reviewing themes	Evaluating the candidate themes and their supporting evidence within the data set.
Five	Defining and naming themes	Establishing a satisfactory schematic map of the data. Refining and defining the themes. Conducting and writing a detailed analysis for each theme and supporting evidence. Submitting a summary of the results to the participants to check for accuracy of interpretation and analysis of the raw data.
Six	Producing the report	Writing the report in the format of a peer reviewed journal.

Table 6. The 6 Phases of Analysis: Based on guidelines by Boyatzis (1998) and Braun & Clarke (2006) for Thematic Analysis.

The Chief Investigator was responsible for all of Phase One, the transcription and familiarisation and the majority of Phases Two to Six with input and guidance from academic supervisors. Data analysis was supported by Nvivo Version 10 software. See Appendix 9 for an audit trail of the data analysis.

3.4 RESULTS

General Overview and Overarching Themes

Five main themes were identified with a further 22 subthemes matched to over 50% (≥6) of the participants. Three additional subthemes approaching 50%, or thought to be of interest by the Chief Investigator in the context of existing literature on insight in psychosis, were also included: Cognitive Ability, Cognitive Analytical Theory (CAT) and Staying Well and Recovery Focused (see Table 6. Main Themes and Subthemes by Number of Participants and References).

Table 7. Main Themes and Subthemes by Number of Participants and References

Sub Theme	Participants	References
The Meaning and Signs of Insight		
Regularly used – Not Clearly Defined	7	10
Insight into Illness	11	25
Insight into the Need for Treatment	6	14
Insight into the Impact of Illness	7	15
Insight into Early Warning Signs and Contributing Factors	9	15
Insight into Risk of Violence	11	18
Environmental Factors		
Risk Driven Service	8	20
Setting and Stage of Journey	8	16
Barriers and Obstacles for Insight in Psychosis		
Self-Defence and Self-Worth	6	6
Stigma of Illness	7	8
(Cognitive Ability)	(3)	7
Assessing Insight in Psychosis		
Therapeutic Relationship	8	17
Standardised Risk Tool (HCR-20) and MDT	8	13
Patient's Perspective	6	22
Measuring Insight	9	22
Formulation	9	22
Validating Information / Evidence based	8	11
Interventions for Insight in Psychosis		
No Explicit Intervention	7	11
Gentle - Non-Confrontational	9	27
Cognitive Behaviour Therapy (CBT)	8	17
Formulation	9	17
Systemic / Compensatory	8	17
Psycho-Education	6	7
(Cognitive Analytical Therapy (CAT))	(5)	7
(Staying Well and Recovery Focused)	(5)	8

Table 6. Main Themes and Subthemes: Number of participants and frequency of references by Subtheme and Main Themes, with Subthemes represented by less than 50% of participants in parenthesis.

Figure 2. Main Themes, Subthemes and Additional Overarching Themes

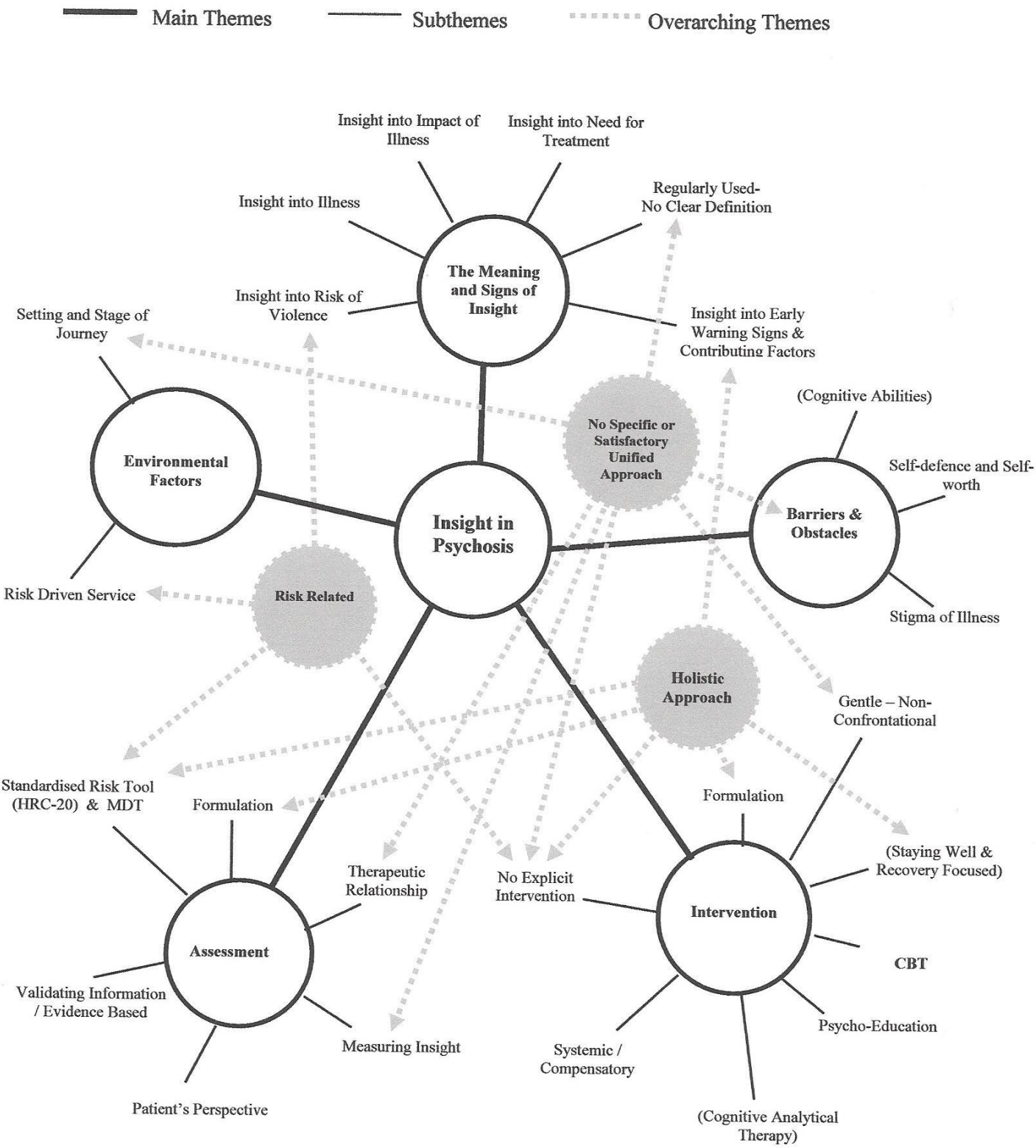

Figure 2. Main themes, subthemes and overarching links/themes. Sub themes in parenthesis indicate that less than 50% of the participants were associated with the subtheme.

General Overview and Overarching Themes

The number and diversity of the subthemes for The Meaning and Signs of Insight (6), Assessment (6) and Intervention (6) reflected the diversity of how practitioners think about insight and its associated issues. Additionally, three overarching themes were identified to help put the overall patterns and themes into additional context (see Figure 2 for an illustration of the themes, subthemes and overarching links). The first, No Specific or Satisfactory Unified Approach, helped highlight that whilst insight was a regularly used term there was no one specific or unified approach for its measurement, assessment and treatment, which was partly due to its complexity as a concept, the complexity of the illness, the presenting barriers and obstacles and the difficulties in targeting it directly. The second overarching theme, Risk Related, illustrated that risk to others heavily influenced all aspects of Forensic Mental Health Services. Holistic Approach illustrated that insight into psychosis was rarely looked at or treated in isolation and other factors were also inter-related.

Main Themes and Subthemes

The Meaning and Signs of Insight

***Regularly Used – Not Clearly Defined*:** This theme indicated that insight was a word within the service that is often used, abstract in concept, not necessarily clearly defined and meaning different things to different people:

"Yeah, and I think when you start talking about it you realise how woolly it is, you realise just how subjective it can be and how folk probably do have different takes on how you measure it and how you improve it because there is no - it's just such an abstract concept." (Sophie)

***Insight into Illness*:** This could include the ability to recognise that they have a mental illness, can identify the symptoms and relabel them:

"you'd be, looking for people's understanding of their kind of symptoms of mental illness. Do they kind of give appraisals as, kind of mental illness or do they see them as, kind of, something else. Therefore they don't, kind of, understand their symptoms, warning signs and then, kind of, relabel as a mental illness or relabel that as something else."(Susan)

A number of comments suggested that in the past a disagreement over, for example, the diagnosis was more likely to be seen as poor insight. However, other comments suggested that clinicians might see an appreciation that their experiences are unusual, rather than looking for the right clinical labels:

"Well you can get someone who is willing to talk about "yeah when my ideas get a bit weird" or "when my obsessions become a bit stronger or when I'm not able to sleep as much" you know they'll talk in symptoms but they're not happy to talk about <u>that</u> being psychosis. And I think that's a bit of a - I guess that's just a judgement , as to whether - is that really necessary that they use the right words - are they demonstrating enough understanding of the component parts that actually putting the right label on it doesn't really particularly make much difference"(Sophie)

***Insight into Need for Treatment*:** Treatment could include medication, therapeutic intervention and support from the team and environment:

"Yes because a patient who is completely insightless. Umm, is starting from a different point of view really aren't they. They're starting from a position of, perhaps there's nothing wrong with me – I don't want your medicine – I don't want your therapies – I've got a different plan for my life you just need to let me out" (Elizabeth)

It might go beyond just compliance with treatment and look for an understanding of the benefits and need for treatment and engagement:

"For some people, they take medication because it helps them sleep, which, and they don't see it has a, as actually helping their mental illness. "Things are better since then because" - so it's their understanding – it's sometimes not our understanding" (Susan)

***Insight into Impact of Illness*:** This goes beyond recognising the illness and symptoms and looks at the impact it has on behaviour, feelings and cognitions and the wider impact on daily functioning, work and relationships:

"and we'd be looking at both of them together to see if they have any awareness that would impact, ummm, on their relationships, on their vocational opportunities, on their daily living" (Penny)

***Insight into Early Warning Signs and Contributing Factors*:** This reflects the ability to reflect on past experiences and be able to identify early warning signs and contributing factors:

"he is able to kind of reflect. He reflects on the processes that might have happened and he is able to recognise what led up to - at the time he was having a number of relationship difficulties, he was having issues with substance misuse. He thinks that these are probably factors that may have led up to that" (Peter)

This could also include knowing what could help:

"it's the patient's understanding of what's happened to them and their knowledge of what is going to make them worse – what's going to make them better" (Elizabeth)

This subtheme could be linked to the assessment process of using a formulation, and a self-formulation in particular. However, is was also included under meaning and signs of insight because it appeared to be significantly different to the more clinical based definitions of insight into specific illness, symptoms and treatment. It provided a theme more related to early intervention, relapse prevention and a more holistic model.

Insight into Risk of Violence: Insight specifically linked into their past, current or future risk of violence or offending behaviour:

"I guess where it may be different in forensics is that you're sort of looking at, umm, insight in terms of their offences as well." (Jack)

This could also include insight into the build-up or contributing factors and linking mental illness to their offending and violent behaviour:

"I suppose, just to establish – I mean, what their understanding is – how they then view that impact – on their – how they view particular situations that have happened to them – risky situations that type of thing – how then it's also impacted on their behaviour – how they've responded – in terms in particularly in terms of their offending behaviour."(Jessica)

This subtheme was separated from just insight into behaviour, because of the importance of risk within the service and its prominence in the transcripts as a standalone theme.

Environment Factors

***Risk Driven Service*:** This theme highlighted that a history of offending behaviour, having a mental illness and concerns about risk to others distinguishes the population from other services. This was also reflected in one of the meanings and signs of insight being "Insight into Risk". The main focus is on reducing the risk and therefore targeting factors associated with the risk:

"I mean, I suppose, when we're talking about forensic it always comes back to risk really so the disorder, their insight into their psychotic disorder is how, or where they are that it might impact on their risk. So if they were to become unwell again would they be more likely to offend... So, their insight into becoming unwell is <u>really</u> important for their risk. Because, first and foremost I suppose we are a public protection." (Penny)

However, the service and clinical psychologists have the combined role of risk management and therapeutic treatment, which would also impact on their approach:

"I think sometimes the forensic services – we are – we often, you know – risk is a, you know, we're very focused on risk…… I think that, that's very very important but I suppose my clinical perspective is just to think of it - about that person and their experiences and just to hold onto them first and foremost in therapy, I suppose, umm - I suppose it's not an ideological view as in – I view things clinically or from a clinically or a forensic psychology perspective "(Jessica)

Setting and Stage of Journey – This theme refers to different levels of security, types of wards such as Admissions and previous treatment and longer term patients. It also covers the stages of psychotic illness which could include first or multiple episodes and from acute to recovery stages and how they present differently:

"Well, it also depends on how many times they've been in hospital. I'm thinking of a specific case, we've got a young man who – it is his first episode of psychosis and it's his first time in hospital – in a forensic hospital – and the first time of committing a serious offence and he presents very differently from somebody else who's been in and out hospital many times for similar things. I can think - me I was thinking then, how he was almost like a rabbit caught in headlights – he didn't have insight into his illness – he didn't have insight into how the hospital works and into what his offence was……..Whereas you can see other people who have been in hospital for many many years and who maybe have quite good insight about understanding that that was illness and "my offence occurred because these certain things were going on" and "if these things were happening again I would do such and such to prevent getting to – perhaps – carrying out another offence" - And lots of people in between." (Mary)

It helps illustrate the issues around homogeneity of this population and characteristics of psychosis and responsivity required. Longer term patients and less time restraints on numbers of therapeutic sessions also appeared to allow more time to develop therapeutic relationships and engagement and slow down the intervention if required:

"I suppose the, kind of, service we're working – that actually, umm, we have people certainly in our service, our part of the service we have people for a very long time. So there isn't necessarily a pressure to do some of these things very quickly." (Jessica)

Barriers and Obstacles

***Self-defence and Self-worth*:** This includes the distress caused when talking about the subject, the realisation of what has happened or the perceived negative consequences of disclosure. In secure hospitalised settings this could include concerns about being detained for longer:

"Because they want to go home and here more than anywhere because they're locked up and he's particularly quite – as I say, really focused on going home, at least at the minute and he's thinking "what do I need to do here to get out as quickly as possible" - so he's thinking "say I've got an illness – well actually" and he flips and you can see him changing in sessions, never mind from week to week – from saying "okay I'll tell you about it and I'm going to be open" and another time "and actually I've not had any symptoms of - not had any symptoms for weeks" "(Mary)

Also, the illness might have perceived positive aspects that they are reluctant to lose or question which, again, might influence the interventional approach:

"and they'll go "well actually it's really nice to think that I'm God or whatever" you know, "because it gives me this gives me these skills" – you know, and then I suppose – you know, as you go through your therapy they might say well like "I don't have those skills in real life" you know so then you can think about how you would tackle that as well."(Barbara)

***Stigma of Illness*:** These included concerns about being labelled with psychosis, what that might say about them and how others might judge them and the long term implications of being labelled by the service:

"I think a lot of the time it's to do with stigma and things like that. That people are - people don't like to be labelled with umm - well particularly in a place like this, you know, they don't like to be labelled as having been here at all even, but to having a mental health diagnosis"(Jack)

This suggests that a disagreement with a diagnosis might not necessarily be about poor insight into illness but reluctance to being labelled due to the wider and long term implications. Conversely, labelling their illness might be reassuring or help normalise their experiences:

"it depends on the individual because for some people the label is comforting – you know "well I know what that is now"" (Barbara)

Another theme identified was Cognitive Abilities highlighting the need to consider other factors such as Learning Disabilities, Autism, head injuries, dementia and long term substance misuse. These might present as poor insight but for other underlying reasons other

than psychosis, therefore, requiring different, more compensatory, therapeutic approaches.

Assessment of Insight

***Building the Therapeutic Relationship*:** This theme includes taking time to build a rapport, creating a safe environment and listening non-judgmentally:

"For that gentleman I had to go for walks in the grounds to build engagement over about maybe two months. Going for cups of tea, it was very much about control, he had to feel that he was able to leave the room if he wants to. But he got to know me, he was able to trust as well. Kind of basic engagement techniques before you even get to that point about actually being able to do the assessment of basic, kind of, symptoms and insight."(Susan)

This could be linked to the setting and illness and having more time and space, compared to other services, to develop therapeutic relationships. Conversely, some might not require the same length of time to build rapport:

"I think generally again it really depends on the patient. I think some patients you can get to work with quite quickly and other patients you need to build up a bit of rapport and trust." (Rachel)

Standard Risk Tool (HCR-20) & MDT: This theme identifies the HCR-20 as a widely used risk assessment tool, which includes insight as one of the twenty items for assessment:

"In terms of insight, in terms of how I would assess it, but I would assess it generally when I'm asked to assess it, it would be part of the risk assessment. So I'd be looking at the, I suppose we're now at HCR 20 version 3. You have the risk indicators which give you a little bit more of an idea, certainly about how they would define insight."(Peter)

The HCR-20 process involves gathering information and discussions with the team which are used to provide a holistic formulation, rather than a quantifiable measure of insight:

"Yeah, ummm, you'd be thinking about that as a team – it would tend to be that, you know, as you know if you're assessing someone with one of these tools someone might say they've definite, you know partial evidence of them not having insight – but what again is good about V3 (HCR-20 V3) it's not so much about having a 2, 1 or 0 score it's much more about – right

what does that mean – what does this lack of insight mean, so it's much more formulation driven – so as a team if someone was saying "I think they don't have insight into their illness" and someone else said "well they did say that they know why they're taking medication". You'd be looking at - for examples from each and putting in the risk assessment document, but you don't need to reach a definitive - they definitely don't have insight – it's just <u>what does that mean</u> in terms of their formulation and then what can we do with that in terms of treatment and management. "(Penny)

The HCR-20 V3, currently in the process of being rolled out in Scottish Forensic Mental Health Services, identifies aspects of insight for consideration as Mental Disorder, Violence and Need for Treatment. This was reflected in the Meaning and Signs of Insight subthemes with similar titles.

Patient's Perspective: This theme includes spending time getting the patient's perspective, explanation of their experiences, listening to their story and assessing the depth of their understanding:

"I think probably over the years I've changed my approach into – into not caring as much in whether they say they have a schizophrenia or a particular mental disorder the kind of terms of it I suppose – I'm not quite as interested in – because I think I've heard people say I have schizophrenia but they have actually no understanding of what that actually means for <u>them</u> – whereas I suppose now I'm much more focused on them understanding what that actually means for them – so how does that affect you – "what are your experiences"" (Barbara)

Measuring Insight: This theme includes reference to how insight was being measured. Some participants referred to clinical judgment rather than a specific tool:

"Umm, to my knowledge there are – well certainly we don't use any tools or anything like that to measure it (insight) here. Ummm, and it seems to be a more a kind of judgement call as to, umm, insight, you know, ummm."(Jack)

Other participants talked about the need for validity within existing tools for forensic populations. However, generally participants referred to a more qualitative approach:

"Tools I've used in the past are the Birchwood insight scale and there is a scale by David the insight assessment something. I certainly have, kind of, used them. In terms of the actual

quantitative data, the score, that comes out of them, I don't think that's really the thing that's overly important. It's more looking at the kind of answers that are produced." (Peter)

Formulation: This theme covered formulation used specifically within the assessment process. A formulation was defined as any vehicle, whether it be based on such things as timelines, staying well plans, risk factors in risk assessments or psychological models. The common denominator was something that helped illustrate the patient's difficulties including any factors that might explain its development and maintenance. These could have been used to help the patient demonstrate their insight:

"I think what I would be looking to assess is their self-formulation abilities and how I would assess that is through, ummm, looking at kind of, different ways of doing would be kind of a longitudinal formulation, so a kind of timeline of their decision-making at the time of the offence, at the time that they became unwell or an entire life kind of formulation in a longitudinal way about what different life experiences contributed towards difficulties X, Y, and Z. And if they can make the links between these different events and thoughts and the behaviour – and that would be a level of insight if somebody 1). make those links in the first place. Recognise the importance, even better - if they can explain why the link is relevant." (Hugo)

Alternatively the clinician might use it to assess and help improve their insight and their understanding of the patient's difficulties:

"I suppose it's unpicking what that person is experiencing. I suppose it's kind of thinking about that person's problem. I suppose, as a psychologist insight itself is just one component of a wider assessment and I suppose that's what I'm trying to do. I'll be considering insight also, but also be considering, as a psychologist, a little bit more of the life-cycle, the development of the problems and be thinking present day and, in terms of, what's maintaining problems as well. And I think that's maybe where insight might be feeding into that perpetuating cycle in some way." (Peter)

This theme also reflected the participants being psychologist where formulation is part of working day practice in most settings.

Validating Information / Evidence Based: This theme suggested that clinicians looked for more than using the right words or saying the right things during the assessment:

"but I suppose, just hearing somebody say I have a schizophrenic illness would not make me think "oh well you have insight" - I would be more thinking well "what does that mean for you then" (pause). Whereas probably before I'm thinking of - maybe when I first started I think if somebody said "Oh well I'm unwell" and they hear voices I'd be thinking "oo that's quite good" - that's quite insightful – and it is, it is compared to some people" (Barbara)

It could also include validating patients' self-report with additional evidence such as observations and information from multiple sources and settings:

"You're looking for, umm, are they able to demonstrate insight across all those settings and across a range of experiences and a range of behaviours. Or, are they saying the right thing to a psychologist and psychiatrist but when actually the CPN goes to visit them – they're doing all the things they shouldn't." (Sophie)

Intervention

No Explicit Intervention: This theme suggests that insight might not be explicitly targeted, even if identified as a treatment need, that it might be a by-product or developed alongside other interventions:

"I suppose maybe I tackle it more than I think I do maybe you know – maybe I think you know I don't tackle it directly but I suppose I wouldn't – I wouldn't "oh I'm going to do - I have a referral for a bit of insight " or whatever – but I do hear that a lot in the hospital but I always think we're doing lots of things that will help their insight rather than kind of just focusing on –"but he needs a bit of insight work now"."(Barbara)

Additionally, other risk factors might be seen as more relevant or the relevance of insight is seen in the context of other risk factors:

"Umm, but it - the emphasis on it would just depend on, you know, what other things are going on and what other risk factors were there and whether they required full insight to - you know for us to be able to manage them and keep them well - or, risk, you know - reduce the risk."(Jessica)

Gentle – Non Confrontational: This theme suggested that the actual intervention was a non-confrontational, organic approach that avoids arguments over the diagnosis or psychotic symptoms and develops insight through gentle exploration and indirect approaches:

"Yeah, I think you're just hoping that it's a kind of organic process because, I think, I think if you try and beat somebody over the head with their diagnosis or you know "this is how your behaviour affects other people" it's gonna get you nowhere. Umm, so it's a kind of soft sell to sort of introduce, you know, "this is how other people have experienced mental health" "can you, you know, relate to any of that" and "what are the specific things that you think are relevant to you" and you know, without directly sort of targeting it." (Jack)

This could include working with what the patient brings, their current problems or distress and then using this as an opportunity to develop insight:

"Umm, so just checking out how the patient is and asking how their umm - Asking how their kind of day-to-day life is - week, you know, umm - I guess that gives you an in as to, umm - you can sort of say "Ooo that seemed to be a problem a wee while ago as well – and maybe before you came in here too – I wonder what that's about?" umm - which again I think is a kind of soft - softly softly" approach.(Jack)

This appeared to be different to no explicit intervention, since this was a deliberate approach to take a less direct route in response to potential barriers and the possibility of disengagement.

Cognitive Behavioural Therapy (CBT): This theme highlighted CBT as a more formal approach that could be used to explore and challenge beliefs:

"In terms of treatment it's probably a case of, kind of, understanding - I probably use a CBT model more. Because I can use those rating scales of not 100% (beliefs) and actually generating alternative explanations for some of the psychotic symptoms, normalising information." (Susan)

This theme also covered some of the limitations of CBT with this particular population, such as difficulties generating alternatives or shortfalls in the model itself such as not being holistic enough:

"I think it's (CBT) too simplistic and I think it's too symptom focused rather than taking other things into consideration." (Mary)

Formulation: Unlike formulation in the assessments, this theme identifies formulations as a specific part of interventions. This included using the process to help the patient generate their own formulation:

"An offender should be able to develop a kind of, staying safe plan. I think they're really important aims, but that process is best. I think, if it starts perhaps from a person's offence formulation or their formulation of the difficulties - that <u>they</u> can generates those insights themselves."(Hugo)

Is could also provide a vehicle to help develop a shared understanding for the therapist and the team as a whole:

"I suppose it's about sharing that formulation with the staff team and whether that's through the risk assessment or whether it's through a formal formulation. And it's about the team thinking about how they can support that patient as well." (Peter)

Systemic / Compensatory Approach: This theme highlighted intervention with greater emphasis on the staff and team developing greater understanding, normally as a compensatory strategy for a patient's poor insight:

"I do think even if you can't get insight with patient because they're very unwell there's still about building insight and understanding with the ward, the team." (Rachel)

The team might take more responsibility for monitoring and managing the illness and risk:

"his insight is very very poor but his risk is well managed in XXXXX to the extent that he doesn't have a XXXXXX - if he's got paranoid thoughts he's got a strong nursing team around him listening and watching for signs that he's getting paranoid about people. It's managed carefully..... (Elizabeth)

Psycho-education: Providing educational information on mental illness including psychosis and its symptoms.

"I've seen insight being targeted through Psycho-educational approaches. So, the person should learn – the idea is that the person could be taught or should learn what the symptoms of psychosis are." (Hugo)

The delivery of Psycho-education ranged from being part of individual therapy to being built into low-intensity groups, such as On the Road to Recovery.

Additional themes were the use of Cogitative Analytical Therapy (CAT) which was used to explore and built awareness of maladaptive relationship problems and their contribution to mental illness. Other approaches were based on the staying well and recovery models. The Stay Well and Recovery model appeared to be part of interventions for most of the settings and services. The fact that these were described as low-intensity group programs not necessarily requiring a qualified psychologist as one of the facilitators might explain why they were not referred to more as a specific intervention. Whereas level of training and expertise of participants, being qualified clinical psychologists, might explain why references to formulations and individual work were more prominent.

Personal Influences

The researcher has worked in a Psychology Department in Scotland's Forensic Mental Health Services and was therefore familiar with the standardised risk tools, and the type of interventions for groups and individuals, the common use of formulations and the different settings and stages of hospitalisation and psychotic illness. This influenced the data labels and interpretation of data associated with these areas. The researcher also conducted a systematic review (Slack *et al.,* in prep) on the constructs of insight and their measures which would have influenced the meaning and signs of insight, since after the initial data led coding in Phase One and Two (see Table. 6) the themes were organised to reflect findings in the literature. This was also true for themes linked to the four broader categories of insight in psychosis as outlined by McCormack *et al.* (2013) namely: insight as a defence mechanism,

cognitive deficit, neurological characteristic of the disease or disagreement over a diagnostic label.

Researcher Interpretation versus Raw Data

The researcher was the principle analyst from identifying initial codes from the raw data through to the final themes and their definitions. Academic supervision also influenced the selection of initial themes and their reduction. However, in order to allow participants to give free and unrestricted responses, all be it within the parameters of the research question, a semi-structured interview format was used (Willig, 2008). Integrity of the data was preserved by transcribing and using data *verbatim.* The initial codes were generated from a "bottom up" approach, where individual transcripts were coded in isolation of each other, to help generate initial individual themes. To aid transparency of the process an audit trail helped describe the stages of analysis (see Appendix 10). The journey between transcripts and final themes is long and susceptible to interpretive bias, therefore, participants were sent descriptions of the final proposed themes and extracts from their individual transcripts used as supporting evidence for each of these themes and asked to check that the interpretation reflected their original statements.

3.5 DISCUSSION

Aims of the study

The aim of the research was to explore current practices in the assessment and intervention of insight in psychosis in Scottish Forensic Mental Health Services. This was to be achieved by using a qualitative methods design to obtain a "bottom up" perspective of current practice as reported by qualified Clinical Psychologist. The hope was to be able to develop a conceptualised framework in the context of emerging concepts of insight within the literature.

Discussion

The overarching themes helped put the conceptual framework into context. Forensic Mental Health Services are heavily influenced by risk. This affected their conceptualisation of insight, insight being seen in the context of risk and any assessments and interventions being geared towards the identification, reduction and management of risk. However, the same approaches used for treating mental illness and psychosis in the generic populations were also found in forensic settings, such as CBT and Psycho-education. Interestingly certain treatments were seen as helpful for certain aspects of insight. Psycho-education increased patients' knowledge of illness and symptoms which then helped increases their ability to recognise the disorder. CBT was also referred to by participants and NICE (2014) as helping patients to re-evaluate their experiences and beliefs in the context of symptoms of illness. However, CBT was also criticised for not being a holistic approach.

The overarching theme of a holistic approach helped illustrate how both the service as a whole and Clinical Psychologists considered the bigger picture. Insight or mental illness was

rarely looked at in isolation being looked at more holistically, normally through formulation, in an attempt to identify all the contributing and interacting factors. Also, of note, this holistic approach also incorporated insight into early warning signs. These appeared to have a more preventative role and appeared to be linked to the patient's ability to reflect and learn from past experience and to identify contributing factors and helpful strategies that could help prevent relapse. This preventative theme was quite prominent in practice, being reflected in the meaning and signs of insight and as an ultimate goal of patients being able to self-formulate and apply preventative measures. However, this did not appear to be so clearly identified within the assessment tools in literature which appeared to be influenced by the bio-medical model (Tranulis *et al*., 2008, Slack *et al*, in prep). This tends to focus on the clinical aspects such as mental illness, the symptoms and need for treatment in isolation of contributing factors. Also of note was that current measurements of insight as used in research and as used in the generic population did not seem to be regularly applied within the forensic services. This was partly explained by a lack of validation for this particular population. However, there was also a preference to take a more qualitative approach in exploring the patients' experiences maybe using some of the instruments as guidelines or domains to be considered. Also of note was the importance of developing a therapeutic relationship, building a rapport and trust before even being able to assess the patient. This was a reflection of the complexity of psychosis which could include paranoid thoughts and mistrust but also maybe the worries and concerns of disclosure within the forensic estate in particular. However, a common theme was the importance of getting the patient's perspective and a deeper understanding of their experience in their own words and taking the time to create a comfortable environment safe enough to discuss difficult subjects.

The third overarching theme, no specific or satisfactory unified approach, might partially reflect the fact that there are currently no guidelines for the assessment or the treatment of insight in psychosis. This is not specific to forensic but could also be a reflection of a shortfall of guidance in general and contradictory evidence of the effectiveness of specific treatment. However, this could also reflect the complexity of this area. This included insight as being an abstract and sometimes unclear concept with no uniformed or unified agreement in terms of its meaning and the domains and aspects being assessed. It also reflected the heterogeneous nature of patients and psychosis, from acute to chronic, from first episode to multiple episodes, from previous intervention to first admissions. It could also reflect the heterogeneous nature of the settings from being treated in a high secure to community based treatment or from having no previous intervention to participating in years of therapeutic treatment.

The conceptual framework also helped to illustrate some other areas not prominently considered in the bio-medical model. For example, the barriers and obstacles more in line with the psychoanalytical concept of defence mechanism (Amador & Kronengold, 2004) such as the subthemes of self-defence and self-worth. Also highlighted for consideration and categorised with the superordinate themes of barriers and obstacles was cognitive abilities including Learning Disabilities, Autism, head injuries and Dementia. This appeared to be linked to cognitive deficits identified as one of four overarching categories for theories of insight in psychosis (McCormick *et al*., 2023).

The HCR-20 had already been identified as a structured risk assessment that included the item insight as one of the 20 core factors. The latest version clarifies specific areas of insight to be considered. This included insight into illness, insight into need for treatment and into

risk of violence. These themes were prominent within the subordinate theme of the meaning and signs of insight. The process of collecting information for the HCR-20 included interviews with the patient if possible, searches through existing reports and files and discussions with the team as a whole from different disciplines and from different settings. Participants indicated that the HCR-20 had now moved away from a quantitative approach to a more qualitative approach, where the question is not whether or not they have insight but whether this is relevant to their future risk of violence. It appears to be a very thorough tool in terms of the information-gathering process and the decision-making process. No one single clinician's observations or opinions appear to be used in isolation. Also, the subordinate theme of validating information is also built into the HCR-20 process and is an item not necessarily reflected in other forms of measurements for insight. For example, some measurements rely on self-reporting and others are clinically rated and might lack the level of scrutiny applied to the HCR-20. However, the HCR-20 can take a number of weeks to complete and involve a number of people in its process which is probably why they are only done when required and not a tool used for research only.

Limitations of study

One of the major threats to using thematic analysis is researcher bias (Boyatziz, 1998). Preventing or lessening the contamination can be helped by developing an explicit code, establishing consistency of judgement or reliability, using several people to encode the information and review the raw information and sticking closely to the raw information in developing the themes (Boyatzis, 1998). In this particular study the Chief Investigator was also the principal coder. However, the methodology included sticking closely to the raw information in developing a code and themes and giving participants the opportunity to feedback on the interpretation. Also, participants were encouraged to give free responses by

using a semi structured interview. A qualitative design was also deemed to be the most suitable methodology given that this was an exploration, which allowed less restriction in exploring the subject matter, whilst keeping within the parameters of the research question.

Additional limitations included self-reporting from a single discipline, qualified Clinical Psychologists, within the forensic mental health services. Whereas this helped ensure a more homogeneous participant population qualified Clinical Psychologists only represent a small proportion of mental health professionals working in this field. Responses reflected this particular discipline, for example formulations, psychological models, and an emphasis on therapeutic relationships and therapeutic intervention. This population were deemed to be the most appropriate given the research title of an exploration into assessment and intervention. However, if for example Psychiatrists or ward staff or Occupational Therapists had been participants findings might have been different. For example, this study did not specifically explore how psychiatrists might assess insight and it could be argued that their assessment and clinical decisions on whether or not a patient has insight might have stronger implications in terms of their responsibilities in presenting the rationale for detention or compulsory treatment. Whereas, for psychologists the emphasis is more on therapeutic intervention even though they also play a prominent part in risk assessment and the HCR-20 in particular.

Conclusion

Insight is part of everyday clinical language and seen as an important and relevant factor in a Forensic Mental Health settings particularly if it's related to risk. Although, it is not always clearly defined and quite an abstract concept and outside of the HCR -0 there are very few guidelines or structured assessments to help provide a uniformed and consistent approach.

However, this is also a reflection of the complexity of insight and the complexity of psychosis as an illness. It is also a reflection of the difficulties of working with this particular population. The intervention itself is often interwoven within other treatments and not necessarily or specifically targeted. This could also partly be due to the sensitivity of the subject and the difficulties and challenges of working with insight in a more direct and confrontational manner. It can also be very rare to look at insight in isolation and requires a more holistic approach, a formulation approach that looks at all contributing factors and how they might interplay with each other. Notably, in practice, a big emphasis is placed on prevention and self-reflection on being able to stay well and avoid relapse which is not clearly proportionally reflected in current tools for measuring insight, popular within generic research. Additionally, these tools are not felt to be adequate or appropriate for this particular setting. Additionally, assessment in the Forensic Mental Health settings appears to place more emphasis on more qualitative than quantitative information. Risk assessment tools such as the HCR-20 appear to be moving towards this way of relying more on formulation rather than a particular value to help evaluate relevance to risk and help guide further intervention.

Future Opportunities

Given that there are no specific guidelines or unified approach on the assessment of insight in psychosis there could be the opportunity to develop an assessment based on a conceptual framework and areas identified from the research. This might be more treatment focused allowing factors such as barriers and obstacles to be taken into account. However, it would also need to encompass all the considerations and practicalities identified when assessing insight. Additionally, there appears to be no current or consistent measurement of any outcomes of treatment that target insight either directly or indirectly. Therefore, the opportunity of introducing or developing a measure of insight into the Scottish Forensic

Mental Health Services, that is responsive to monitoring subtle changes due to treatment, might also exist.

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